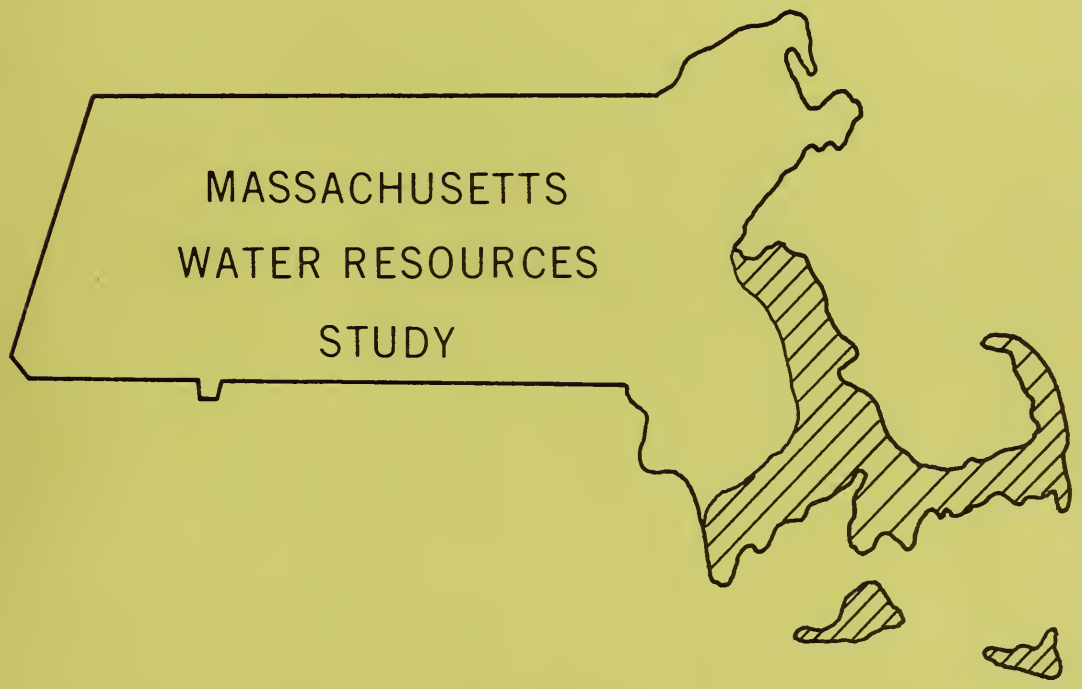
UNITED STATES DEPARTMENT of AGRICULTURE

INVENTORY
of
POTENTIAL and EXISTING
UPSTREAM RESERVOIR SITES

SOUTH SHORE, CAPE COD, BUZZARDS BAY
& ISLANDS STUDY AREAS



U.S. DEPARTMENT of AGRICULTURE
Soil Conservation Service
Economic Research Service
Forest Service

In cooperation with the

MASSACHUSETTS WATER RESOURCES COMMISSION

JUNE 1975

FOREWORD

The United States Department of Agriculture, in cooperation with the Massachusetts Water Resources Commission, is participating in the Massachusetts Water Resources Study of the water and related land resources of the Commonwealth. One phase of the study is the inventorying of potential and existing upstream reservoir sites.

The Commonwealth of Massachusetts, through the Water Resources Commission, provides guidance and a significant financial contribution toward this phase of the Massachusetts Water Resources Study. The Massachusetts Water Resources Commission, to fulfill its responsibilities under Chapter 620, Acts of 1956 and Chapter 767, Acts of 1970, requires technical and engineering data and information on potential upstream reservoir sites. The Department of Agriculture is participating in this study under the provisions of Section 6 of the Watershed Protection and Flood Prevention Act (Public Law 566, 83rd Congress, as amended) which authorizes the Secretary of Agriculture to cooperate with other federal, state and local agencies, in surveys and investigations of the watersheds of rivers and other waterways as a basis for the development of coordinated programs.

This report, prepared by the Soil Conservation Service and submitted by the USDA Field Advisory Committee to the Water Resources Commission, identifies and inventories potential and existing upstream reservoir sites within the Buzzards Bay, Cape Cod, Islands, and South Shore Study Areas.

The Massachusetts Water Resources Commission will use this report, together with other reports and studies prepared by the United States Department of Agriculture and others, in the preparation of a comprehensive plan for the Commonwealth's water and land resources.

The information and data contained herein will also assist local, state and federal agencies in their specific planning activities for the coordinated and orderly conservation, development, utilization and management of the water and land resources to meet rapidly expanding needs.

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Soil Conservation Service personnel prepared this report. Lloyd French, Clifford Jones, John Raleigh III, and Richard Vieira developed the basic data under the direction of Walter Bolles and Larry Boutiette. Donald Mills investigated geological conditions. Gloria Rosen, Doris Butts and Patricia Cobb typed the manuscript. James Wesoloski was responsible for editing and publication.

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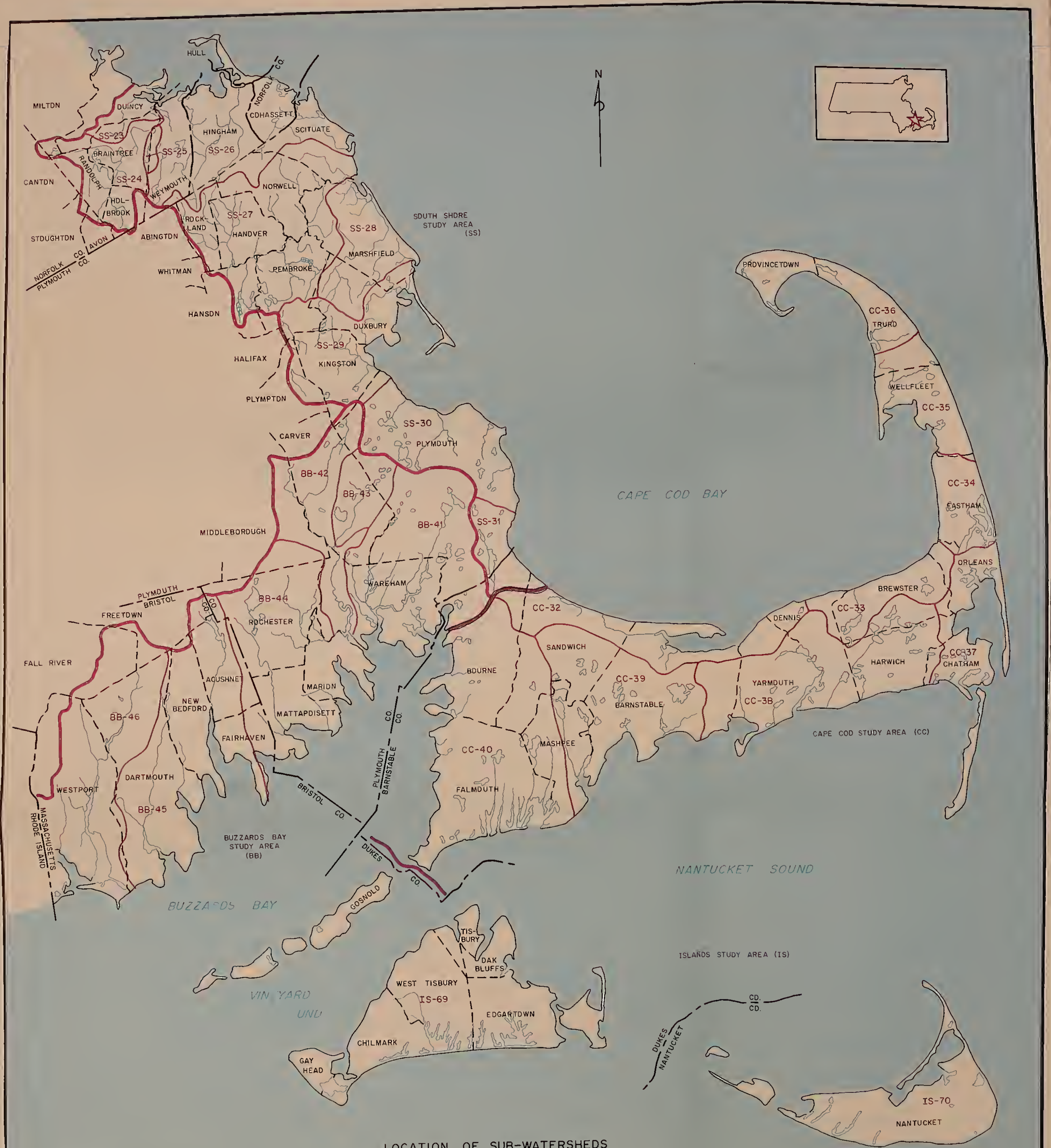
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MASSACHUSETTS
5 0 5
SCALE IN MILES
USDA-SCS-HYATTSVILLE, MD. 1974

INVENTORY OF

POTENTIAL AND EXISTING UPSTREAM RESERVOIR SITES

in the

BUZZARDS BAY, CAPE COD,
ISLANDS, AND SOUTH SHORE STUDY AREAS

prepared by the

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

in cooperation with the

MASSACHUSETTS WATER RESOURCES COMMISSION

INTRODUCTION

This report presents data on 65 potential and 112 existing reservoirs in the Buzzards Bay, Cape Cod, Islands,and South Shore Study Area in Barnstable, Bristol, Dukes, Nantucket, Norfolk, and Plymouth Counties in Massachusetts.

DESCRIPTION OF STUDY AREAS

The Buzzards Bay Study Area is located in Barnstable, Bristol and Plymouth Counties in southeastern Massachusetts. The main rivers include the Agawam, Acushnet, Mattapoisett, Westport, and Weweantic Rivers. The Study Area, which covers about 243,400 acres or 380 square miles, is divided into six subwatersheds. All or portions of sixteen cities and towns are located within the study area.

The Cape Cod Study Area consists of Barnstable County in southeastern Massachusetts. There are many small streams which originate in the center portion of the Cape and flow directly to the Atlantic Ocean, Cape Cod Bay, or Nantucket Sound. The Study Area, which covers about 269,800 acres or 422 square miles, is divided into nine subwatersheds. Fifteen towns are located within the Study Area.

The Islands Study Area consists of the islands in Dukes and Nantucket Counties located off the southern coast of Massachusetts. There are many small streams which flow directly to the Atlantic Ocean, Nantucket Sound, or Vineyard Sound. The study area, which covers about 103,100 acres or 161 square miles, is divided into two subwatersheds. Eight towns are located within the study area.

The South Shore Study Area is located in Bristol and Norfolk Counties in southeastern Massachusetts. The main rivers include the Eel, Jones, North, South, and Weir Rivers. The Study Area, which covers about 210,000 acres or 328 square miles, is divided into nine subwatersheds. All or portions of 29 cities and towns are located within the study area.

CRITERIA

Potential Reservoir Sites

The primary considerations used to identify potential reservoir sites were: suitable topography for a dam and reservoir, sufficient drainage area to maintain the proposed reservoir, and a relatively undeveloped pool area.

The following criteria were used as a guide in site selection:

1. Drainage area -- larger than one-half square mile, but not greater than 50 square miles.

2. Ratio of drainage area to beneficial pool area -- not less than 10 to 1.

3. Minimum beneficial pool depth -- 7 feet at the dam.

4. Minimum beneficial pool area -- 10 acres.

5. Minimum beneficial pool capacity -- 100 acre-feet.

6. Maximum beneficial pool capacity -- storage volume equal to 25 inches of runoff from the drainage area.

7. Maximum height of dam -- 100 feet.

8. Pool area relatively undeveloped -- no housing developments, industrial area, or major highways inundated.

Existing Reservoirs

Existing reservoirs were located using the U.S. Geological Survey (USGS) quadrangle sheets. Two criteria were used to determine sites to be included in this report:

1. Surface area -- at least 10 surface acres or a pond identified by name on the USGS topographic map.

2. Man-made dam -- natural ponds and beaver dams are excluded.

INVESTIGATIONS AND ANALYSES

Potential Reservoir Sites

Sites were located using the latest available USGS 7½ minute quadrangle sheets. Natural basins, or topography favorable for storage of water, and an undeveloped pool area were the primary considerations in the initial site selection. Watershed boundaries were delineated on the quadrangle sheets and the drainage area was determined for each site. Water storage areas and volumes available upstream of the site centerline were calculated. Data were also obtained to calculate the volume of earthfill required for the dam and any supplementary dikes that might be needed to maintain a reservoir.

At each site a field reconnaissance was made that included an inventory of land and facilities (man-made structures) that would be affected if a dam and reservoir were developed at the site. If it was determined that the reservoir would flood extensive man-made facilities, or a study of the elevation-area storage data showed that the site did not meet criteria for the study, the site was dropped from further consideration.

A surficial geologic investigation was made of each potential site to determine any obvious geologic conditions that might affect the water-holding capability or require extensive foundation preparation. A preliminary geological report was prepared which outlined the types of materials that might be expected at the site and their effect on construction costs and waterholding capabilities for the site. The report of geologic conditions was based on the geologist's interpretation following the surficial investigation of the site and surrounding area. No borings were made and subsurface conditions may vary from those indicated in this report.

Hydrologic and hydraulic data were calculated using methods developed by the Soil Conservation Service. Rainfall data were obtained from Technical Papers 40 and 49, U.S. Department of Commerce, Weather Bureau. Preliminary structure site analyses for several levels of development for each site were processed by computer, using a program which determines the most economical type of principal spillway; determines the runoff and peak flow for the 100-year frequency, 10-day duration, principal spillway design storm; routes the design storm to set the emergency spillway crest; performs other routings to determine the design high water and top of dam elevations; calculates embankment yardage and other construction quantities; determines the total estimated cost of the reservoir; and calculates "safe yield" for water supply purposes.

Existing Reservoirs

An inventory was made of 70 existing reservoirs that cover at least ten acres or are identified by name on the USGS quadrangle sheet, and are formed by a man-made dam. The reservoirs were located using the USGS quadrangle sheets. An engineer made a field reconnaissance to determine the physical condition of each structure and to assess the potential for expansion of the reservoir. While at the site, photographs were taken. Selected photographs are included in this report. Ownership and use information for the reservoirs was obtained from records of the Massachusetts Department of Public Works, the Massachusetts Water Resources Commission and from local interviews.

COSTS

Preliminary cost estimates for potential reservoir sites were based on construction costs and land values as of 1973. The cost estimates include: (1) construction costs; (2) contingencies; (3) engineering and administrative services necessary for surveys, geology, final design, and construction inspection; (4) cost for land required for the reservoir and construction of the dam and spillway; and (5) costs associated with purchase or relocation of man-made facilities affected by the constructed reservoir.

Construction costs were based on recent dam-construction contract costs in Massachusetts. A factor for contingencies, equal to 15% to 35% of the construction cost, was included to account for items that were not considered at this intensity of study. Engineering and administrative services ranged from 20% to 40% of the construction cost.

Costs for land acquisition were based on an evaluation of current real estate transactions and market conditions. Land with potential for development was valued at from $1,000 to $10,000 per acre; land with little development potential was valued at from $200 to $500 per acre. Land values also varied from site to site based on the proximity to developed areas and highways, development taking place in the area, and suitability for development. Land needed for the dam, spillway, and design high water pool was included in the land acquisition cost.

Cost estimates are presented on the basis of a cost per acre-foot of storage and cost per surface-acre to provide a comparison between different sites and different levels of development at the same site. Costs are based on preliminary estimates; firm cost estimates for any site can be determined only after completion of detailed geologic and engineering investigations, final structural designs, and land appraisals.

No cost estimates are included for existing reservoirs.

REPORT FORMAT

The report is divided into sections based on the eighteen subwatersheds in the study areas. The location map, placed after the Table of Contents, outlines the area covered by each subwatershed. To aid local residents in determining which sites are located in their city or town, the Municipal Index of Sites lists the site identification numbers for potential and existing reservoir sites within each municipality and the page number of this report on which data are recorded.

Each subwatershed section provides site data for the potential and existing reservoir sites located within the subwatershed which are included in this report.

Potential Reservoir Sites

Data for potential reservoirs are presented in the following format:

Location: includes a narrative description of the location of the site by reference to nearby roads, railroads, or other physical landmarks. In addition, the latitude, longitude, and USGS quadrangle sheet name are provided for more accurate location.

Facilities Affected: describes any man-made facilities that would be flooded by a reservoir at the potential site. The elevation of existing facilities was estimated during the engineer's field reconnaissance with the aid of the USGS quadrangle sheets.

Geologic Conditions: provides a summary of the preliminary geologic report. The material in the abutments (the valley sides) and the foundation (the valley floor) is described. An estimate is made of the depth to bedrock and the probable type of rock. The availability of fill material which could be used in the dam construction is noted.
Possible leakage problems are indicated and the waterholding capability of the site is subjectively described as "good," "fair," or "poor." The waterholding capability statement is based on the geologist's interpretation of the surficial conditions observed during the field reconnaissance.

Engineering Notes: provides information which should be helpful in preliminary design of a dam. One of the abutments is recommended as the location for an excavated emergency spillway. If an excavated emergency spillway is unable to carry the required flows at safe velocity, the need for a concrete emergency spillway is noted.

Public Ownership: indicates that some portion of a reservoir site is located on land owned by a governmental or quasi-public unit.

Sites which meet study criteria have been analyzed using a computer program which develops preliminary structure site analyses for several levels of beneficial pool. Results of the computer program are presented in the tables entitled "Summary Data for Potential Upstream Reservoir Sites" at the end of each subwatershed section. Two information lines contain data on site drainage area, USGS quadrangle name on which the site is located, latitude and longitude of the site, site rating, stream water quality, and principal spillway design storm runoff and peak flow. The site rating is based on geologic conditions and the expected waterholding capability. Sites are given one of the following ratings:

1. Suited for deep permanent storage (over 10 feet in depth).
2. Best suited for shallow water storage (3 to 5 feet maximum depth).
3. Best suited for temporary storage (e.g., floodwater and sediment storage).

In order to furnish the most data for potential reservoir sites, each site was considered to be suitable for deep permanent storage (rating "1") for purposes of design and analyses. The rating for any site could change based on detailed geologic investigations.

Stream water quality ratings are based on classifications assigned by the Division of Water Pollution Control, Massachusetts Water Resources Commission, and published in "Water Quality Standard," June 1967, and are as follows:

"Class A -- Waters designated for use as public water supply in accordance with Chapter 111 of the General Laws. Character uniformly excellent.

"Class B -- Suitable for bathing and recreational purpose including water contact sports. Acceptable for public water supply with appropriate treatment.
Suitable for agricultural, and certain industrial cooling and process uses; excellent fish and wildlife habitat; excellent aesthetic value.

"Class C -- Suitable for recreational boating; habitat for wildlife and common food and game fishes indigenous to the region; certain industrial cooling and process uses; under some conditions acceptable for public water supply with appropriate treatment. Suitable for irrigation of crops used for consumption after cooking. Good aesthetic value.

"Class D -- Suitable for aesthetic enjoyment, power, navigation, and certain industrial cooling and process uses. Class "D" waters will be assigned only where a higher water use class cannot be attained after all appropriate waste treatment methods are utilized."

The Summary Data for Potential Upstream Reservoir Sites tables also contain data for as many as six possible levels of development at each site. Elevations of the beneficial pool, emergency spillway crest, design high water, and top of dam are shown along with pertinent storage volumes, surface areas and depths. Total cost expressed in dollars per acre-foot of storage and dollars per surface-acre are provided to aid in comparison of levels of development. The emergency spillway type which was used in the preliminary design is indicated by an emergency spillway type code explained in the table notes.

These tables are photo-reductions of the computer output sheets. Elevations are shown to the tenth of a foot and costs to the nearest $10, but are not to be considered that accurate because of the limited investigations made with preliminary data. All the Summary Data Tables are based on preliminary reconnaissance-type investigations and computer-produced structure designs. Additional detailed engineering, geologic and design investigations must be made before final site selection, land acquisition and final design would be practical.

Estimated safe yield for each potential reservoir are also shown on the tables and were based on information extrapolated from data developed by Professor G. R. Higgins, Civil Engineering Department, University of Massachusetts. These estimated safe yields are based on a 95% chance, or the minimum yield that could be expected 19 years out of 20 -- taking into consideration reservoir storage-volume and expected runoff. These data do not consider evaporation, seepage, or prior upstream usage losses.

The Committee on Rainfall and Yield of Drainage Areas of the New England Water Works Association has recommended a figure of 600,000 gallons per day per square mile as a maximum economically feasible safe yield. Data for some of the potential sites in this report show a safe yield above 600,000 gallons per square mile per day. These higher values are useful to define the upper portion of a discharge-storage curve for preliminary analysis. For detailed evaluation of a potential site or water supply purposes, the recommendation of the New England Water Works Association should be considered.

Existing Reservoirs

Site data for existing reservoir sites are presented in the following format:

Location: of the dam is indicated by reference to nearby roads, railroads, or other physical landmarks. The appropriate USGS quadrangle sheet, latitude, and longitude are provided for more accurate location.

Physical data (surface area, height of dam, and drainage area) were estimated from the quadrangle sheet and by field reconnaissance.

Potential for Expansion: potential is estimated and any major man-made facilities which would be affected by an enlarged reservoir are noted. Some of the site narratives contain the phrase "Significant expansion

does not appear practical." The phrase is used to indicate that although the pool level might be raised by a few feet or the pool area increased by a few acres, any greater expansion does not appear feasible due to topography or facilities which would be flooded.

In some instances, the drainage area of the reservoir does not meet the criteria requiring a 10 to 1 drainage area to pool area ratio, below which there may be relatively high evaporation losses. An increase in reservoir surface area might increase evaporation losses to a point where the reservoir could not be maintained during the summer months. These situations are indicated by the statement "The small drainage area limits expansion potential."

Many of the existing reservoirs have low dams and pond levels which are less than 5 feet above the surrounding ground water elevation. Because of the predominance of sand and gravel in the foundation and abutments of the reservoirs in the study areas, excessive seepage losses may severely limit any significant increase in the depth of the reservoir. If it was apparent that excessive seepage might be a problem, the condition is noted with the statement "Sandy soils may limit expansion potential."

Remarks: includes a description of the dam and spillway system. Construction materials, spillway type and size, and condition of the structure are noted.

Ownership and Use: is indicated, if available. In some cases, the pool is not maintained for a specific purpose, but may have incidental use for recreation. This is probably the situation for existing reservoirs which are indicated in the Massachusetts Department of Public Works records as being used to "store water." Typical of these sites are old mill dams which are no longer utilized for mill power.

Selected photographs of existing dams, spillways, and reservoirs are included in the report.

MAPS

Individual subwatershed maps appearing at the end of each section indicate the location of the potential and existing reservoir sites in that subwatershed. The maps are reductions of mosaics prepared from 7½ minute USGS quadrangle sheets (1" = 2000' scale). The quadrangle sheets used and publication dates are listed on the maps. Potential sites are indicated with a red rectangle surrounding the site number. Existing reservoirs are identified by a red circle surrounding the site number.

SOUTH SHORE STUDY AREA
SITE DATA FOR

Subwatershed SS-23, Town River

This subwatershed covers about 6200 acres in Braintree, Quincy, and Weymouth in Norfolk County.

The main stream in the subwatershed is the Town River which originates in Braintree and flows northeasterly through Quincy to Town River Bay and the Atlantic Ocean. Elevations range from a high of 360 feet in the Blue Hills Reservation to sea level in Town River Bay.

One existing reservoir was studied.

****

Site SS-2303(Old Quincy Reservoir)

Location: On Town Brook about 600 feet upstream from Walnut Street in Braintree, Mass.

Blue Hills, Mass. USGS quadrangle

Latitude: 42°13'03" Longitude: 71°00'55"

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
45	30	1,050	1.64

Potential for Expansion: Limited by development which surrounds the reservoir. The South Shore Plaza Shopping Center and several industrial buildings would be affected by expansion.

Remarks: The dam is an earthfill structure. The upstream face of the dam is riprapped with granite blocks. The principal spillway is a granite block riser and a cast iron pipe conduit. The emergency spillway is a granite block weir about 25 feet long and 4 feet deep outletting to a granite-lined channel. Trees are growing on the dam.

Ownership and Use: The reservoir is owned by the City of Quincy and is used for recreation.

****

Old Quincy Reservoir (SS-2303)

Source - USGS Quad Sheets
Hull - 1958
Weymouth - 1958
Boston South - 1956
Blue Hills - 1958

TOWN RIVER (SS-23)
SOUTH SHORE STUDY AREA
MASSACHUSETTS
EXISTING AND POTENTIAL RESERVOIR SITES
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

USDA-SCS HYATTSVILLE MD 1974

SOUTH SHORE STUDY AREA
SITE DATA FOR

Subwatershed SS-24, Monatiquot River

This subwatershed covers about 18,500 acres in Avon, Braintree, Canton, Holbrook, Milton, Quincy, Randolph, and Stoughton in Norfolk County; and Abington and Brockton in Plymouth County.

Major streams in the subwatershed include the Blue Hill River, Farm River, Cochato River, and the Monatiquot River. The Blue Hill River originates in Milton and flows easterly to form the Farm River downstream of the Braintree Great Pond Reservoir. The Farm River flows southeasterly to South Braintree where it joins the Cochato River to form the Monatiquot. The Monatiquot flows northeasterly to the Weymouth Fore River and the ocean at the Braintree-Weymouth town line. The Cochato River is formed at the confluence of Tumbling and Glovers Brook on the Braintree-Randolph town line. The river flows north to the confluence with the Farm River in South Braintree.

Four existing reservoirs were studied.

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Site SS-2409(Upper Reservoir)

Location: On a tributary to Blue Hill River at the Braintree-Randolph town line. About 80% of the reservoir area is in Randolph.

Blue Hills, Mass. USGS quadrangle

Latitude: 42°11'44" Longitude: 71°02'31"

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
165	10	1,150	1.80

Potential for Expansion: Limited. The west edge of the reservoir is a residential area which would be affected by expansion.

Remarks: The dam is an earthfill structure with granite block riprap on the upstream slope. The principal spillway is a concrete ogee weir with flashboards. There are four spillway bays each about 7 feet wide and 4 feet deep. The outlet channel is about 30 feet wide and has granite block sidewalls. Dam and spillway are in good condition.

Site SS-2409(Upper Reservoir)(Cont.)

Ownership and Use: The reservoir is owned by the Town of Braintree and is used as a water supply reservoir.

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Site SS-2410(Great Pond)

Location: On a tributary to Blue Hill River about 100 feet upstream from Pond St. in Braintree, Mass. About one-quarter of the pond area is in Randolph.

Blue Hills, Mass. USGS quadrangle

Latitude: 42°12'21" Longitude: 70°02'42"

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
180	10	2,500	3.91

Potential for Expansion: Limited. Upper Reservoir(Site SS-2409) is located immediately upstream. Both ponds are surrounded by residential areas which would be affected by expansion.

Remarks: The dam is an earthfill structure with riprap on the upstream slope. The spillway is a concrete and steel structure with flashboards to control the pond level. The spillway weir is about 30 feet long and 4 feet deep. Dam and spillway are in good condition.

Ownership and Use: The pond is owned by the Town of Braintree and is used as a water supply reservoir.

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Site SS-2411(Sunset Lake)

Location: On a tributary to the Monatiquot River about 500 feet upstream from Pond Street in Braintree, Mass.

Blue Hills, Mass. USGS quadrangle

Latitude: 42°12'05" Longitude: 71°00'58"

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
55	3	325	0.51

Potential for Expansion: The small drainage area limits expansion potential. A great deal of residential development would be affected by expansion.

Remarks: The dam is a concrete and granite block weir spillway. The spillway consists of two five-foot wide bays with provision for flashboards and a central bay constructed of granite blocks. The downstream stilling basin is filled with silt and debris.

Ownership and Use: The lake is owned by the Town of Braintree and is used for recreation.

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Site SS-2412(Lake Holbrook)

Location: On Trout Brook at North Shore Road in Holbrook, Mass.

Blue Hills, Mass. USGS quadrangle

Latitude: 42°08'49" Longitude: 71°01'13"

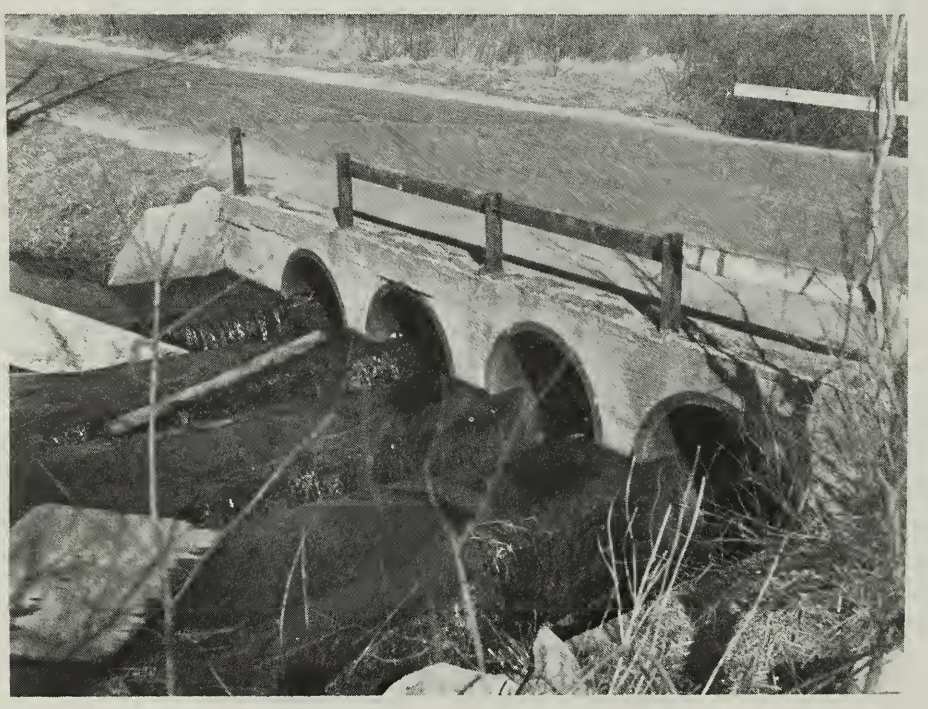
Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq.Mi.
40	6	1,650	2.58

Potential for Expansion: Limited by residential development which surrounds the lake.

Remarks: North Shore Road forms the dam. The principal spillway consists of four concrete drop inlets which outlet under North Shore Road through four concrete culverts. There is also a corrugated metal half-round riser and metal pipe conduit spillway.

Site SS-2412(Lake Holbrook)(Cont.)

Ownership and Use: The lake is owned by the Town of Holbrook and is used for recreation.



SS-2409

SS-2410
Great Pond

SS-2411
Sunset Lake

EXISTING RESERVOIRS
SUBWATERSHED SS-24
MONATIQUOT RIVER

LEGEND

SUBWATERSHED BOUNDARY

EXISTING POND

EXISTING RESERVOIR

Source - USGS Quad. Sheets
Whitman - 1963
Weymouth - 1958
Brockton - 1963
Blue Hills - 1958

MONATIQUOT RIVER (SS-24)

SOUTH SHORE STUDY AREA

MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOUTH SHORE STUDY AREA
SITE DATA FOR

Subwatershed SS-25, Smelt Brook

This subwatershed covers about 1200 acres in Braintree and Weymouth, in Norfolk County.

The main stream in this subwatershed is Smelt Brook which originates in Braintree and flows northerly into Weymouth Fore River, a tidal inlet of Massachusetts Bay. Elevations range from a high of about 220 feet in Braintree to tide water at the confluence with the Weymouth Fore River.

Geology in the subwatershed is characterized by granite bedrock overlain by 5 to 10 feet of englacial drift and glacial till.

This watershed is currently under study as a flood control project by the U.S. Army, Corps of Engineers.

One potential reservoir site was studied.

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POTENTIAL SITE SS-2501

Location: On Smelt Brook about 2200 feet upstream from Stetson Street in Braintree, Mass.

Weymouth, Mass. USGS quadrangle

Latitude: 42°12'36" Longitude: 71°58'28"

Facilities Affected:

Facility	Elevation
6 houses	75
Swimming pool	75

Geologic Conditions: Both abutments are granite bedrock overlain by thin discontinuous englacial drift and glacial till. Depth to granite bedrock in the foundation is estimated to be from 5 to 10 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The right abutment is recommended for the emergency spillway location. The spillway will probably be excavated in bedrock.

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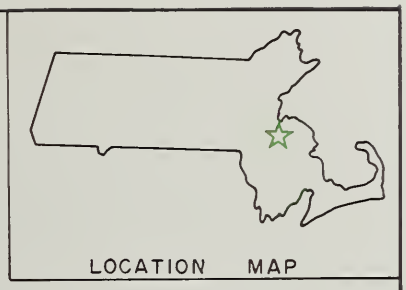
SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-SOUTH SHORE SUBWATERSHED SMELT BROOK

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV ++ TYPE (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-SS-2501 DA= 1.43 SQ MI = 915 AC USGS QUAD-WEYMOUTH,MASS LATITUDE 42-12-36 LONGITUDE 71-58-28																
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 6.30 IN, PEAK FLOW = 516 CFS																
55.9	0	0.0		4		5.9	66.5 E	317	4.1	2070	70.6	124	74.9	25	47	*****
63.0	100	1.2	7300	41	1770C	13.1	65.6 E	248	3.2	2950	70.8	126	75.0	25	47	0.17
65.3	219	2.9	3700	66	1223C	15.2	67.8 E	433	5.6	1880	72.1	136	76.1	26	53	0.31
66.9	338	4.4	2590	84	1041C	16.9	69.4 E	594	7.8	1470	73.1	144	77.1	27	58	0.43
68.1	458	6.0	2040	99	941C	18.2	70.6 E	753	9.8	1240	74.1	151	78.0	28	62	0.53

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **



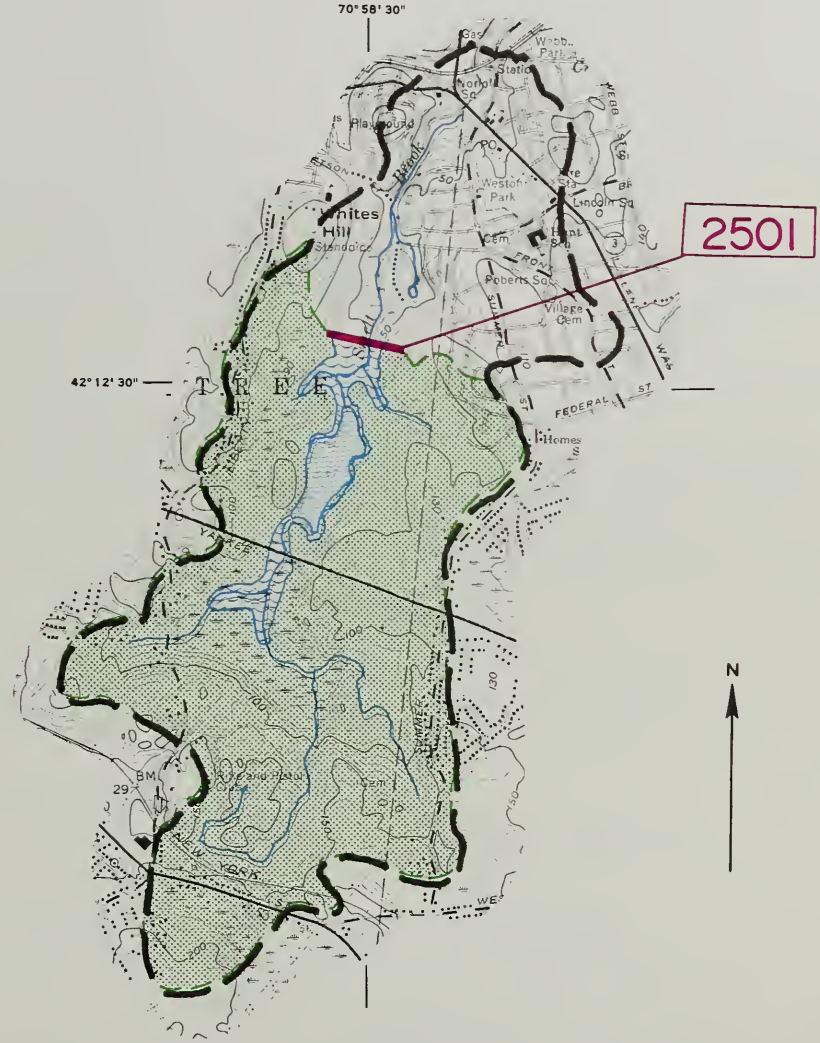
LEGEND

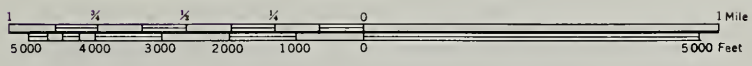
WATERSHED BOUNDARY

DRAINAGE AREA ABOVE STRUCTURE

POTENTIAL SITE SHOWING BENEFICIAL POOL FOR LARGEST STRUCTURE

EXISTING POND OR RESERVOIR





SMELT BROOK (SS-25)

SOUTH SHORE STUDY AREA

MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Source - USGS Quad. Sheets
Weymouth - 1958

USDA-SCS-HYATTSVILLE, MD. 1974

SOUTH SHORE STUDY AREA
SITE DATA FOR

Subwatershed SS-26, Weir River

This subwatershed covers about 44,400 acres in Braintree, Cohasset, Holbrook and Weymouth in Norfolk County; and Abington, Hingham, Hull, Norwell, Rockland and Situate, in Plymouth County. There are U.S Geological Survey Gaging stations on Bound Brook in Cohasset and Old Swamp River in South Weymouth.

Major streams in this subwatershed include the Weir River, Mill River, Old Swamp Brook and Bound Brook. The Weir River originates in Weymouth as Plymouth River which flows generally northeasterly into Cushing Pond in Hingham, where it emerges as Crook Meadow River, which flows northeasterly to the confluence with Fulling Mill Brook. These streams form the Weir River which continues to flow northeasterly into Massachusetts Bay. The Mill River originates in Weymouth, in Great Pond, and flows generally northeasterly to Weymouth Back River, a tidal inlet to Massachusetts Bay. The Old Swamp River originates in Rockland and flows northwesterly through Hingham to Whitmans Pond in Weymouth. Bound Brook originates in Norwell and flows generally northeasterly through Hingham and Cohasset to the Gulf, a tidal inlet of Massachusetts Bay. Elevations range from a high of about 300 feet in Holbrook to tide water in Massachusetts Bay.

Geology of the subwatershed is characterized by granite bedrock overlain by 10 to 25 feet of outwash sand and gravel or glacial till.

Eight potential reservoir sites and 12 existing reservoirs were studied.

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POTENTIAL SITE SS-2601

Location: On the Old Swamp River about 4700 feet downstream from Forrest Street in Hingham, Mass.

Weymouth, Mass. USGS quadrangle

Latitude: 42°09'44" Longitude: 70°55'22"

Facilities Affected:

Facility	Elevation
3 houses	130
Shed	130

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to granite bedrock in the foundation is estimated to be from 20 to 25 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location. Part of the left abutment has been removed for sand and gravel.

****

POTENTIAL SITE SS-2602

Location: On Accord Brook about 4000 feet downstream from Prospect Street in Hingham, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°12'04" Longitude: 70°51'47"

Facilities Affected:

Facility	Elevation
5 houses	120
2 barns	120
2 sheds	120
Charles Street	120
Road	120
5 houses	115
Swimming pool	115

Geologic Conditions: The left abutment is poorly graded sand and gravel outwash. The right abutment is poorly graded sand and gravel outwash underlain by granite bedrock. Depth to granite bedrock in the foundation is estimated to be from 15 to 25 feet. Waterholding capabilities appear to be poor. Leakage is expected through the left abutment and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location. Waterholding capabilities might be improved if a cut-off to bedrock can be made.

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POTENTIAL SITE SS-2603

Location: On Accord Brook about 4400 feet upstream from Triphammer Pond Dam in Hingham, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°12'55" Longitude: 70°51'27"

Facilities Affected:

Facility	Elevation
Union Street	65

Geologic Conditions: Both abutments are granitic bedrock with poorly graded sand and gravel at the lower portion of each abutment. Depth to bedrock in the foundation is estimated to be from 10 to 15 feet. Waterholding capabilities appear to be fair. Leakage is expected through the outwash sand and gravel. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The right abutment is recommended for the emergency spillway location. The spillway will probably be excavated in bedrock. Waterholding capabilities might be improved if a cut-off to bedrock can be made.

****

POTENTIAL SITE SS-2604

Location: On Accord Brook at Triphammer Pond about 2200 feet upstream from Weir River in Hingham, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°13'25" Longitude: 70°52'04"

Facilities Affected:

Facility	Elevation
Leavitt Street	70
Union Street	65

Geologic Conditions: The left abutment is poorly graded sand and gravel outwash. The right abutment is poorly graded sand and gravel outwash underlain by granite bedrock. Depth to granite bedrock in the foundation is estimated to be from 10 to 20 feet. Waterholding capabilities appear to be fair. Leakage is expected through the left abutment. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The right abutment is recommended for the emergency spillway location. The spillway will probably be excavated in bedrock. Waterholding capabilities might be improved if a cut-off to bedrock can be made.

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POTENTIAL SITE SS-2605

Location: On Bound Brook about 5000 feet upstream from the Cohasset-Hingham town line in Hingham, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°11'42" Longitude: 70°50'34"

Facilities Affected:

Facility	Elevation
Road	90

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to granite bedrock in the foundation is estimated to be from 10 to 20 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location. Waterholding capabilities might be improved if a cut-off can be made. The right abutment has been excavated for sand and gravel.

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POTENTIAL SITE SS-2606

Location: On Bound Brook at Beechwood Street in Cohasset, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°12'35" Longitude: 70°40'25"

Facilities Affected:

Facility	Elevation
Beechwood Street	55
Utility poles	55

Geologic Conditions: The left abutment is granitic bedrock. The right abutment is glacial till underlain by granitic bedrock. Depth to granitic bedrock in the foundation is estimated to be from 5 to 10 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The left abutment is recommended for the emergency spillway location. The spillway will probably be excavated in bedrock.

****

POTENTIAL SITE SS-2607

Location: On Brass Kettle Brook about 1600 feet upstream from Lily Pond in Cohasset, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°13'25" Longitude: 70°49'21"

Facilities Affected:

Facility	Elevation
Utility poles	50

Geologic Conditions: Both abutments are granite bedrock. Depth to granite bedrock in the foundation is estimated to be from 5 to 10 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was not located near the site.

Engineering Notes: The left abutment is recommended for the emergency spillway location. The spillway will probably be excavated in bedrock.

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POTENTIAL SITE SS-2609

Location: On the Plymouth River about 3200 feet upstream from Ward Street in Hingham, Mass.

Weymouth, Mass. USGS quadrangle

Latitude: 42°11'40" Longitude: 70°54'18"

Facilities Affected:

Facility	Elevation
3 houses	80
6 houses	75
2 Commercial buildings	75
2 sheds	75
Swimming pool	75
Cushing Street	70

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to bedrock in the foundation is estimated to be from 5 to 15 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location.

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SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-SOUTH SHORE — SUBWATERSHED WEIR RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY					DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	TYPE	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-SS-2601	DA= 1.53 SQ MI = 979 AC		USGS QUAD-WEYMOUTH,MASS				100-YR PRIN SPWY DESIGN STORM					RUNOFF = 6.10 IN, PEAK FLOW = 367 CFS					
SITE RATING (3)	STREAM WATER QUALITY (B)																
114.8	0	0.0		12		0.8	121.1	E	339	4.1	1660	123.6	97	126.6	13	25	*****
118.0	100	1.2	6090	53	1153C	4.0	120.5	E	279	3.4	2180	122.8	93	125.8	12	22	0.17
120.6	284	3.5	2440	83	836C	6.6	123.1	E	519	6.4	1340	125.6	106	128.6	15	33	0.39
122.8	469	5.6	1670	93	841C	8.8	125.3	E	727	8.8	1070	127.6	116	130.6	17	41	0.55
124.6	653	8.0	1310	102	843C	10.7	127.1	E	934	11.3	920	129.5	125	132.5	19	50	0.69
SITE-SS-2602	DA= 3.42 SQ MI = 2189 AC		USGS QUAD-COHASSET,MASS				100-YR PRIN SPWY DESIGN STORM					RUNOFF = 6.00 IN, PEAK FLOW = 826 CFS					
SITE RATING (3)	STREAM WATER QUALITY (B)																
102.3	0	0.0		20		2.3	112.1	E	757	4.1	1140	114.6	331	117.6	18	27	*****
105.3	100	0.5	9100	46	1962C	5.3	111.8	E	701	3.8	1300	114.3	313	117.3	17	26	0.18
107.1	205	1.1	4740	63	1539C	7.1	111.6	E	688	3.8	1410	114.1	308	117.1	17	26	0.36
110.0	415	2.3	2700	89	1254C	10.0	112.5	E	850	4.6	1320	115.0	351	118.0	18	29	0.62
112.1	730	4.0	1890	201	686C	12.2	114.6	E	1441	7.8	960	117.0	455	120.0	20	38	0.97
SITE-SS-2603	DA= 4.40 SQ MI = 2816 AC		USGS QUAD-COHASSET,MASS				100-YR PRIN SPWY DESIGN STORM					RUNOFF = 6.00 IN, PEAK FLOW = 908 CFS					
SITE RATING (2)	STREAM WATER QUALITY (B)																
53.8	0	0.0		18		3.8	68.8	E	974	4.1	710	73.8	159	78.6	29	62	*****
57.5	100	0.4	6250	36	1753C	7.5	60.0	E	238	1.0	2630	70.4	132	77.1	27	49	0.20
62.5	357	1.5	2010	68	1049C	12.6	65.1	E	588	2.5	1220	72.6	149	77.6	28	53	0.59
68.1	871	3.6	1060	114	809C	18.2	70.6	E	1220	5.1	760	76.0	176	79.6	30	74	1.17
70.3	1128	4.8	920	131	790C	20.2	72.8	E	1518	6.5	680	76.9	184	79.9	30	77	1.40

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
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(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-SOUTH SHORE — SUBWATERSHED WEIR RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY					DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	STORAGE IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	TYPE	STORAGE AT CREST AC FT	STORAGE AT CREST IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-SS-2604 DA= 4.95 SQ MI = 3168 AC USGS QUAD-COHASSET,MASS LATITUDE 42-13-25 LONGITUDE 70-52-04																	
SITE RATING (2) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 6.10 IN, PEAK FLOW = 1021 CFS																	
28.7	0	0.0		16		4.8	52.8	E	1096	4.1	940	60.0	182	67.1	43	176	*****
33.5	100	0.4	6160	23	2655C	9.6	36.0	E	200	0.8	3080	45.9	57	52.0	28	61	0.20
46.7	567	2.0	2000	61	1859C	22.7	49.2	E	775	2.9	1470	59.5	176	66.1	42	164	0.87
56.4	1502	5.6	970	144	1013C	32.4	58.9	E	1936	7.3	750	64.5	244	68.8	45	198	1.75
59.3	1969	7.5	810	175	919C	35.3	61.8	E	2481	9.3	650	66.1	268	69.6	46	210	2.13
SITE-SS-2605 DA= 0.69 SQ MI = 442 AC USGS QUAD-COHASSET,MASS LATITUDE 42-11-42 LONGITUDE 70-50-34																	
SITE RATING (3) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 6.00 IN, PEAK FLOW = 232 CFS																	
88.1	0	0.0		2		4.1	103.0	E	153	4.1	3350	105.5	21	108.5	24	39	*****
100.1	100	2.7	5950	15	3994C	16.2	102.6	E	147	4.0	4050	105.0	21	108.0	24	37	0.14
103.8	163	4.4	4140	19	3508C	19.7	106.3	E	220	6.0	3070	108.8	25	111.8	28	54	0.21
109.3	289	7.8	2860	26	3192C	25.4	111.8	E	369	10.0	2240	114.3	43	117.3	33	85	0.31
112.5	384	10.3	2350	36	2507C	28.5	115.0	E	492	13.3	1840	117.3	54	120.0	36	104	0.37
SITE-SS-2606 DA= 4.83 SQ MI = 3091 AC USGS QUAD-COHASSET,MASS LATITUDE 42-12-35 LONGITUDE 70-40-25																	
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 6.00 IN, PEAK FLOW = 860 CFS																	
49.7	0	0.0		39		1.7	62.5	E	1069	4.1	620	66.4	145	69.6	22	35	*****
51.8	100	0.4	4290	56	759C	3.8	51.8	N	139	0.5	3090	61.1	110	66.8	19	25	0.20
54.9	308	1.2	1850	74	770C	6.8	57.4	E	549	2.0	1040	64.1	130	68.5	20	31	0.54
57.5	517	2.0	1230	88	720C	9.5	60.0	E	791	3.0	800	65.8	141	69.5	22	35	0.81
59.6	725	2.8	990	100	714C	11.7	62.1	E	1036	4.0	690	67.0	149	70.0	22	37	1.03

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
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(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
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** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-SOUTH SHORE — SUBWATERSHED WEIR RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-SS-2607 DA= 1.46 SQ MI = 934 AC USGS QUAD-COHASSET,MASS LATITUDE 42-13-25 LONGITUDE 70-49-21																
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 6.00 IN, PEAK FLOW = 335 CFS																
45.4	0	0.0		12		1.4	52.4 E	323	4.1	780	55.4	139	58.9	15	12	*****
49.0	100	1.2	2970	43	697C	5.1	51.5 E	255	3.3	1160	55.5	141	58.8	15	12	0.17
50.3	161	2.0	2020	56	584C	6.3	52.8 E	366	4.6	890	56.3	153	59.5	15	13	0.25
52.0	284	3.5	1410	84	477C	8.1	54.5 E	557	7.1	720	57.0	166	60.0	16	14	0.37
52.5	323	4.1	1380	91	488C	8.5	55.0 E	615	7.8	720	57.1	168	60.0	16	14	0.42
SITE-SS-2609 DA= 3.29 SQ MI = 2106 AC USGS QUAD-WEYMOUTH,MASS LATITUDE 42-11-40 LONGITUDE 70-54-18																
SITE RATING (3) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 6.20 IN, PEAK FLOW = 761 CFS																
59.5	0	0.0		26		1.6	73.3 E	948	5.4	1400	75.6	153	78.6	21	128	*****
62.3	100	0.6	14080	44	3165C	4.3	72.8 E	896	5.1	1570	75.3	147	78.3	20	121	0.18
65.6	275	1.6	5550	61	2513C	7.6	74.1 E	1062	6.1	1440	76.6	164	79.6	22	139	0.45
68.3	450	2.5	3740	73	2294C	10.3	74.8 E	1146	6.5	1470	77.1	171	80.0	22	145	0.66
70.5	625	3.5	2880	88	2056C	12.5	75.5 E	1250	7.1	1440	77.9	180	80.0	22	145	0.85

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
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(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

Existing Site SS-2604(Triphammer Pond)

Location: On Accord Brook about 2500 feet upstream from the Weir River in Hingham, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°13'25" Longitude: 70°52'02"

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
18	8	3,150	4.92

Potential for Expansion: Please refer to Site Data and Design Summary Table for Potential Site SS-2604.

Remarks: The dam is an earthfill structure with some riprap on the upstream slope. The principal spillway is a concrete fish ladder. There is also a stone masonry flume which may have been used for mill power. Concrete in the fish ladder is cracked, spalled, and broken. The dam has been overtopped near the right side. Large willow trees are growing on the dam.

Ownership and Use: The pond is owned by the town of Hingham and is used for recreation.

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Existing Site SS-2610(Foundry Pond)

Location: On the Weir River about 1500 feet downstream from Route 3-A in Hingham, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°14'49" Longitude: 70°51'41"

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
8	9	9,425	14.73

Potential for Expansion: Limited by the Penn Central Railroad located immediately upstream, Route 3A, and several local streets.

Remarks: The dam is an earthfill structure with stone masonry walls on the upstream and downstream faces. The principal spillway is a stone masonry and concrete drop structure about 75 feet long and 1 foot deep. There is also a concrete fish ladder and a stone box outlet about 5 feet by 1.5 feet.

Ownership and Use: The pond is owned by the town of Hingham and is used for recreation.

****

Existing Site SS-2612(Fulling Mill Pond)

Location: On Fulling Mill Brook just upstream from South Pleasant Street in Hingham, Mass.

Weymouth, Mass. USGS quadrangle

Latitude: 42°12'15" Longitude: 70°52'36"

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
13	9	150	0.23

Potential for Expansion: The small drainage area limits expansion potential. A pumping station would be affected by expansion.

Remarks: The dam is an earthfill structure with South Pleasant Street at the downstream toe. The upstream face is a low stone wall. The spillway is a capped, stone masonry, drop inlet and a stone box culvert. There has been some wave erosion at the upstream face of the dam.

Ownership and Use: The pond is owned by the Hingham Water Company and is used for water supply.

****

Existing Site SS-2613(Cushing Pond)

Location: On the Crooked Meadow River about 2500 feet upstream from Main Street in Hingham, Mass.

Weymouth, Mass. USGS quadrangle

Latitude: 42°12'31" Longitude: 70°53'16"

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
18	9	3,250	5.08

Potential for Expansion: Limited by a housing development along the north shore of the pond.

Remarks: The dam is an earthfill structure. The principal spillway is a three-bay concrete drop structure with provision for stop-logs. There is also a concrete structure which outlets into a channel to s mill building. The channel was recently rebuilt.

Ownership and Use: The pond is owned by Charles and Alma Clemens and is used for wildlife and recreation.

****

Existing Site SS-2614 (Brewer Pond)

Location: On an unnamed tributary to the Fresh River about 900 feet north of Hobart Street in Hingham, Mass.

Weymouth, Mass. USGS quadrangle

Latitude: 42°13'28" Longitude: 70°54'11"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Sq. Mi.
4	5	35	0.05

Potential for Expansion: The small drainage area limits expansion potential.

Remarks: The dam is an earthfill structure. The spillway is concrete capped, stone masonry drop structure with flashboards.

Ownership and Use: The pond is owned by the Brewer Estate and is not used for a specific purpose.

****

Existing Site SS-2615 (Cranberry Pond)

Location: On an unnamed tributary to the Weymouth Fore River about 1,700 feet downstream from Broad Street in Weymouth, Mass.

Weymouth, Mass. USGS quadrangle

Latitude: 42°13'18" Longitude: 70°57'28"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Sq. Miles
3	5	250	0.39

Potential for Expansion: Limited. A residential area along the west edge of the pond would be affected. The small drainage area limits expansion potential.

Remarks: The dam is an earthfill structure with old riprap on the upstream slope. the spillway is a concrete retaining wall with an 8-foot wide opening with provision for flashboards. Water has flowed around both ends of the wall. Brush and trees are growing on the dam.

Ownership and Use: The pond is owned by the town of Weymouth and used for conservation purposes.

****

Existing Site SS-2616 (Whitman's Pond)

Location: On Mill River between Lake Street and Pleasant Street in Weymouth, Mass.

Weymouth, Mass. USGS quadrangle

Latitude: 42°12'39" Longitude: 70°55'48"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
175	18	8,400	13.13

Potential for Expansion: Limited. Most of the shoreline is lined with residential development.

Remarks: The dam is an earthfill structure with a stone wall along the downstream face. The spillway is a concrete weir with four 5-foot wide bays. There is another spillway located near the left abutment, as well as a concrete fish ladder. It appears that the dam was recently reconstructed. The dam and spillways are in good condition.

Ownership and Use: The pond is owned by the town of Weymouth and is used as a supplemental water supply.

Existing Site SS-2617 (Elias Pond)

Location: On an unnamed tributary to Weymouth Back River about 1,600 feet downstream from Diersch Street in Weymouth, Mass.

Weymouth, Mass. USGS quadrangle

Latitude 42°12'37" Longitude: 70°55'26"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
3	8	450	0.70

Potential for Expansion: Limited. Fairmount Cemetery and several streets would be affected.

Remarks: The dam is an earthfill structure with riprap on the upstream face. The spillway is a granite block weir about 4 feet wide with provision for flashboards. The weir outlets to a series of granite block steps.

Ownership and Use: The pond is owned by East Weymouth Wool Company and is used for recreation.

Existing Site SS-2618 (Great Pond)

Location: On Mill River about 50 feet upstream from Hollis Street in Weymouth, Mass.

Weymouth, Mass. USGS quadrangle

Latitude: 42°10'10" Longitude: 70°58'01"

Surface Area (Acres)	Height Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
300	8	1,800	2.81

Potential for Expansion: Limited. An area of shallow water would be created by expansion. The pond is already large in relation to its drainage area.

Remarks: The dam is an earthfill structure. The principal spillway is a concrete weir with flashboards. Adjacent to the principal spillway is another weir which serves as the emergency spillway. The dam and spillways are in good condition.

Ownership The pond is owned by the town of Weymouth and is used for water supply.

****

Existing Site SS-2619 (Accord Pond)

Location: On Accord Brook about 500 feet upstream from Route 53 in Hingham, Mass. About one-quarter of the pond area is in Norwell and Rockland.

Weymouth, Mass. USGS quadrangle

Latitude: 42°10'27" Longitude: 70°53'24"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
95	8	370	0.58

Potential for Expansion: Limited. The pond is already large in relation to its drainage area.

Remarks: The dam is an earthfill structure. Most of the upstream slope is riprapped. The spillway is a capped, stone masonry drop structure. The downstream channel is lined with stone. Small trees are growing on the dam. Seepage was noted along the downstream toe of the dam and the adjoining esker.

Ownership and Use: The pond is owned by Hingham Water Company and is used for water supply.

****

Existing Site SS-2620 (Bound Brook Pond)

Location: On Bound Brook at Mount Hope Street in Norwell, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°11'35" Longitude: 70°50'03"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
18	12	1,300	2.03

Potential for Expansion: Raising the pond level by 10 feet would create a 300 acre pool. Most of the water would be quite shallow.

Remarks: Mount Hope Street forms the dam. The spillway is a four-bay concrete structure with flashboard control. Each bay is about 5 feet wide and 5 feed deep. Water passes under Mount Hope Street through three 60-inch corrugated metal pipes. The spillway is in good condition and appears to be recently reconstructed.

Ownership and Use: The pond is privately owned and is not used for a specific purpose.

****

Existing Site SS-2621 (Sanctuary Pond)

Location: On James Brook about 3,600 feet upstream from Sohier Street in Cohasset, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°14'28" Longitude: 70°49'28"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
5	6	300	0.47

Potential for Expansion: Limited. Expansion would affect a railroad, Main Street, and Route 3A.

Remarks: The dam is an earthfill structure. The spillway inlet is a one-foot high by three-foot wide orifice in a concrete wall. The pond outlet is covered with stone rubble and is not visible. Trees and brush are growing on the dam. Seepage was noted along the downstream toe of the dam.

Ownership and Use: The pond is owned by Reservation Trustees and is used for wildlife habitat.

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SS-2610
Foundry Pond

SS-2616
Whitmans Pond

SS-2612
Fulling Pond

SS-2617
Elias Pond

SS-2615
Cranberry Pond

EXISTING RESERVOIRS
SUBWATERSHED SS-26
WEIR RIVER

SS-2618
Great Pond

SS-2619
Accord Pond

SS-2620
Bound Brook Pond

EXISTING RESERVOIRS
SUBWATERSHED SS-26
WEIR RIVER

LEGEND

WATERSHED BOUNDARY

DRAINAGE AREA ABOVE STRUCTURE

POTENTIAL SITE SHOWING BENEFICIAL POOL FOR LARGEST STRUCTURE

EXISTING POND OR RESERVOIR

2601 2602 2603 2604 2605 2606 2607 2609 2610 2612 2613 2614 2615 2616 2617 2618 2620 2621

Source - USGS Quad. Sheets
Hull - 1958
Scituate - 1961
Cohasset - 1961
Weymouth - 1958
Nantasket - 1961

WEIR RIVER (SS-26)

SOUTH SHORE STUOY AREA
MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOUTH SHORE STUDY AREA
SITE DATA FOR

Subwatershed SS-27, North River

This subwatershed covers about 52,000 acres in Abington, Duxbury, Hanover, Hanson, Marshfield, Norwell, Pembrooke, Rockland, Situate and Whitman, in Plymouth County and Weymouth, in Norfolk County. There is a U.S. Geological Survey Stream gaging station on Indian Head Brook in Hanover.

The main stream in this subwatershed is the North River which begins at the confluence of Third Herring Brook and Indian Head River in Hanover, and flows generally northeasterly along the Norwell, Marshfield and Situate town boundaries to Massachusetts Bay. Third Herring Brook originates in Norwell and flows southeasterly along the Norwell-Hanover town boundaries to the confluence with the North River. Indian Head River originates in Factory Pond in Hanson and flows generally easterly along the Hanover, Hanson and Pembroke town boundaries to the confluence with the North River.

Elevations range from a high of about 210 feet in Marshfield to tide water in Massachusetts Bay.

Geology in this subwatershed is characterized by granite bedrock overlain by 10 to 50 feet of outwash sand and gravel or glacial till.

Ten potential reservoir sites and 21 existing reservoirs were studied.

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POTENTIAL SITE SS-2701

Location: On Second Herring Brook at Turner Pond about 1800 feet downstream from Cross Street in Norwell, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°10'21" Longitude: 70°47'14"

Facilities Affected:

Facility	Elevation
2 houses	80
3 houses	75
Garage	75
Cross Street	75

Geologic Conditions: The right abutment is poorly graded sand and gravel outwash. The left abutment is poorly graded sand and gravel with cobbles and boulders underlain by bedrock. Depth to bedrock in the foundation is estimated to be from 15 to 20 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments. Borrow material for dam construction was located near the site.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE SS-2703

Location: On First Herring Brook at the Norwell-Scituate town line in Norwell, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°11'06" Longitude: 70°47'02"

Facilities Affected:

Facility	Elevation
3 houses	90
Shed	90
Old Oaken Bucket Road	90
House	85
Shed	85
3 houses	80
4 sheds	80
Utility poles	75

Geologic Conditions: Both abutments are poorly graded sand and gravel with cobbles and boulders. Depth to bedrock in the foundation is estimated to be from 10 to 20 feet. Waterholding capabilities appear to be fair. Leakage is expected through both abutments. Borrow material for dam construction was located near the site.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location. Waterholding capabilities might be improved if a cut-off can be made.

****

POTENTIAL SITE SS-2705

Location: On an unnamed tributary to Second Herring Brook about 400 feet upstream from Norwell Avenue in Norwell, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°10'29" Longitude: 70°48'43"

Facilities Affected:

Facility	Elevation
6 houses	130
3 sheds	130
Lincoln Street	130
Mt. Blue Street	130
Shed	125

Geologic Conditions: Both abutments are poorly graded coarse sand and gravel underlain by bedrock. About 50% of the right abutment is covered with boulders. Depth to granite bedrock in the foundation is estimated to be from 15 to 20 feet. Waterholding capabilities appear to be fair. Leakage is expected through both abutments. Pervious borrow material for dam construction was located near the site; impervious material was not located.

POTENTIAL SITE SS-2705 (continued)

Engineering Notes:	The left abutment is recommended for the excavated emergency spillway location. Waterholding capabilities might be improved if a cut-off can be made.

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POTENTIAL SITE SS-2706

Location:	On Wildcat Creek about 500 feet upstream from Pleasant Street in Norwell, Mass. Cohasset, Mass. USGS quadrangle Latitude: 42°08'52" Longitude: 70°49'30"
Facilities Affected:	**Facility**: Utility poles — **Elevation**: 85
Geologic Conditions:	Both abutments are poorly graded coarse sand and gravel. Depth to bedrock in the foundation is estimated to be from 15 to 20 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments. Pervious borrow material for dam construction was located near the site; impervious material was not located.
Engineering Notes:	The right abutment is recommended for the excavated emergency spillway location. Waterholding capabilities might be improved if a cut-off can be made.

****

POTENTIAL SITE SS-2712

Location: On Cove Brook about 400 feet upstream from Highland Street in Marshfield, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°08'37" Longitude: 70°45'41"

Facilities Affected:

Facility	Elevation
4 houses	60
Garage	60
Union Street	60

Geologic Conditions: The left abutment is poorly graded sand and gravel outwash at low elevations and glacial till at higher elevations. The right abutment is glacial till underlain by bedrock. Depth to granite bedrock in the foundation is estimated to be from 15 to 20 feet. Waterholding capabilities appear to be fair. Leakage is expected low on the left abutment. Borrow material for dam construction was located near the site.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location. Waterholding capabilities might be improved if a cut-off through the sand and gravel on the left abutment can be made.

****

POTENTIAL SITE SS-2713

Location: On an unnamed tributary to Drinkwater River about 200 feet upstream from King Street in Hanover, Mass.

Whitman, Mass. USGS quadrangle

Latitude: 42°05'13" Longitude: 70°52'44"

Facilities Affected:

Facility	Elevation
9 houses	75
Swimming pool	75
Utility poles	75

Geologic Conditions: Both abutments are poorly graded sand and gravel. Depth to bedrock in the foundation is estimated to be from 30 to 40 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: Preliminary design information indicates that a concrete monolithic conduit emergency spillway may be needed at this site. The left abutment has been excavated for sand and gravel.

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POTENTIAL SITE SS-2714

Location: On Herring Brook about 800 feet downstream from Mountain Avenue in Pembroke, Mass.

Hanover, Mass. USGS quadrangle

Latitude: 42°03'51" Longitude: 70°48'09"

Facilities Affected:

Facility	Elevation
15 houses	55
2 sheds	55
Hobomock Street	55
2 houses	50
Shed	50
House	45
House	40
Mountain Avenue	40

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to bedrock in the foundation is estimated to be from 40 to 50 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE SS-2715

Location: On Huldah Brook about 3000 feet downstream from Route 3 in Pembroke, Mass.

Hanover, Mass. USGS quadrangle

Latitude: 42°05'32" Longitude: 70°45'35"

Facilities Affected:

Facility	Elevation
House	55
Shed	55

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to bedrock in the foundation is estimated to be from 40 to 50 feet. Waterholding capabilities appear to be poor to fair. Leakage is expected through both abutments and the foundation. Borrow material for dam construction was located near the site.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

****

POTENTIAL SITE SS-2716

Location: On Pudding Brook at the Reservoir about 4300 feet downstream from Pleasant Street in Pembroke, Mass.

Hanover, Mass. USGS quadrangle

Latitude: 42°05'09" Longitude: 70°45'33"

Facilities Affected:

Facility	Elevation
7 houses	40
North Street	40
4 sheds	40
3 Commercial buildings	40
4 houses	35
4 sheds	35
Elm Street	35
House	30
Shed	30

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to bedrock in the foundation is estimated to be from 50 to 60 feet. Waterholding capabilities appear to be fair. Leakage is expected through both abutments. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location. A portion of the left abutment has been excavated for sand and gravel.

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POTENTIAL SITE SS-2717

Location: On an unnamed tributary to the North River at Magoun Pond about 2200 feet upstream from Union Street in Marshfield, Mass.

Hanover, Mass. USGS quadrangle

Latitude: 42°07'05" Longitude: 70°45'47"

Facilities Affected:

Facility	Elevation
Cemetary (0.02 acres)	75
Cemetary Road	70
3 houses	65
Shed	65

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to bedrock in the foundation is estimated to be from 40 to 50 feet. Waterholding capabilities appear to be poor to fair. Leakage is expected through both abutments. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

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SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-SOUTH SHORE — SUBWATERSHED NORTH RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY					DESIGN HIGH WATER		DAM			SAFE YIELD AT 95
ELEV (MSL)	STORAGE AC FT	STORAGE IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV + TYPE (MSL)	STORAGE AT CREST AC FT	STORAGE AT CREST IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	PERCENT CHANCE (MGD)
SITE-SS-27C1	CA= 0.62 SQ MI = 397 AC						USGS QUAD-CCHASSET,MASS				LATITUDE 42-10-21		LONGITUDE 70-47-14			
SITE RATING (3)	STREAM WATER QUALITY (B)						100-YR PRIN SPWY DESIGN STORM				RUNOFF = 5.90 IN, PEAK FLOW = 209 CFS					
63.8	0	0.0		2		3.8	70.8 E	137	4.1	4360	73.3	63	76.5	16	12	*****
70.5	115	3.5	6430	47	1578C	10.5	73.0 E	256	7.6	2890	75.1	73	78.1	18	16	0.16
71.5	165	5.0	4740	53	1490C	11.5	74.0 E	318	9.6	2470	75.8	77	78.8	19	17	0.20
SITE-SS-27C3	CA= 1.57 SQ MI = 1005 AC						USGS QUAD-CCHASSET,MASS				LATITUDE 42-11-06		LONGITUDE 70-47-02			
SITE RATING (2)	STREAM WATER QUALITY (B)						100-YR PRIN SPWY DESIGN STORM				RUNOFF = 5.90 IN, PEAK FLOW = 386 CFS					
67.5	0	0.0		12		1.5	75.6 E	347	4.1	1950	78.1	83	81.1	15	36	*****
71.3	100	1.2	6760	40	1685C	5.3	73.8 E	234	2.8	2890	76.1	72	79.1	13	27	0.18
74.0	237	2.8	3740	58	1538C	8.0	76.5 E	411	4.9	2160	78.9	89	81.9	16	40	0.34
78.0	511	6.1	2300	83	1419C	12.0	80.5 E	749	8.8	1560	82.8	106	85.8	20	63	0.58
80.9	784	9.3	1780	99	1410C	14.8	83.4 E	1055	12.6	1320	85.9	118	88.9	23	86	0.79
82.3	921	11.0	1640	104	1445C	16.2	84.8 E	1208	14.3	1250	87.1	123	90.0	24	95	0.86
SITE-SS-2705	CA= 0.86 SQ MI = 550 AC						USGS QUAD-CCHASSET,MASS				LATITUDE 42-10-29		LONGITUDE 70-48-43			
SITE RATING (2)	STREAM WATER QUALITY (B)						100-YR PRIN SPWY DESIGN STORM				RUNOFF = 5.90 IN, PEAK FLOW = 268 CFS					
111.8	0	0.0		5		1.7	121.1 E	190	4.1	2630	123.5	54	126.5	16	22	*****
118.5	100	2.2	5730	25	2304C	8.5	121.0 E	182	4.0	3150	123.3	53	126.3	16	22	0.15
119.8	137	3.0	4690	29	2212C	9.8	122.3 E	241	5.3	2660	124.6	63	127.6	18	27	0.18
121.8	211	4.6	3710	43	1824C	11.8	124.3 E	347	7.6	2260	126.8	78	129.8	20	36	0.27
123.3	284	6.1	3110	54	1653C	13.3	125.8 E	446	9.7	1980	128.2	88	131.2	21	43	0.32
124.0	321	7.0	2920	58	1604C	14.0	126.5 E	497	10.8	1880	129.0	94	132.1	22	47	0.35

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-SOUTH SHORE — SUBWATERSHED NORTH RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	STORAGE IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	STORAGE AT CREST AC FT	STORAGE AT CREST IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-SS-2706 DA= 1.47 SQ MI = 941 AC USGS QUAD-COHASSET,MASS LATITUDE 42-08-52 LONGITUDE 70-49-30																
SITE RATING (3) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 5.90 IN, PEAK FLOW = 341 CFS																
67.3	0	0.0		4		5.3	85.5 E	325	4.1	2070	87.6	82	90.0	28	67	*****
79.5	100	1.2	6270	12	53770	17.5	82.0 E	165	2.0	3800	84.3	52	87.4	25	48	0.17
81.1	131	1.7	5540	23	31730	19.2	83.6 E	226	2.9	3200	86.1	68	89.1	27	61	0.21
82.3	162	2.0	4890	33	24180	20.2	84.8 E	283	3.5	2790	87.1	77	90.0	28	67	0.25
82.5	169	2.2	4720	35	22910	20.5	85.0 E	297	3.8	2690	87.4	80	90.0	28	67	0.26
SITE-SS-2712 DA= 0.88 SQ MI = 563 AC USGS QUAD-COHASSET,MASS LATITUDE 42-08-37 LONGITUDE 70-45-41																
SITE RATING (2) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 5.70 IN, PEAK FLOW = 287 CFS																
21.0	0	0.0		3		5.0	38.4 E	195	4.1	3310	40.8	25	44.0	28	72	*****
33.4	100	2.0	8690	15	59840	17.4	35.9 E	147	3.0	5890	38.4	21	41.4	25	59	0.15
39.0	201	4.3	4960	22	45850	23.0	41.5 E	271	5.8	3670	43.9	32	46.9	31	87	0.26
46.0	402	8.6	2430	37	26570	30.0	48.5 E	508	10.8	1920	50.9	49	53.9	38	134	0.42
52.5	704	15.0	1730	56	21750	36.5	55.0 E	860	18.2	1410	57.5	75	60.5	45	191	0.58
SITE-SS-2713 DA= 0.66 SQ MI = 422 AC USGS QUAD-WHITMAN,MASS LATITUDE 42-05-13 LONGITUDE 70-52-44																
SITE RATING (3) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 5.90 IN, PEAK FLOW = 223 CFS																
56.5	0	0.0		4		2.5	65.4 E	146	4.1	4050	68.3	47	73.6	20	55	*****
64.1	100	2.8	7110	28	25500	10.2	64.1 E	105	3.0	6750	68.8	49	74.0	20	56	0.14
65.6	149	4.1	5160	35	22170	11.7	65.6 E	154	4.4	4990	70.0	54	74.6	21	60	0.18
67.0	198	5.6	4460	41	21760	13.0	67.0 E	203	5.8	4350	71.0	64	75.3	21	64	0.23
68.1	246	7.0	4000	46	21610	14.1	68.1 E	252	7.1	3920	71.9	73	75.8	22	68	0.27

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-SOUTH SHORE — SUBWATERSHED NORTH RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY					DESIGN HIGH WATER		DAM			SAFE YIELD AT 95
ELEV (MSL)	STORAGE AC FT	STORAGE IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV ++ TYPE (MSL)	STORAGE AT CREST AC FT	STORAGE AT CREST IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	PERCENT CHANCE (MGD)
SITE-SS-2714	CA= 5.63 SQ MI = 3603 AC						USGS QUAD-HANOVER,MASS				LATITUDE 42-03-51		LONGITUDE 70-48-09			
SITE RATING (3)	STREAM WATER QUALITY (B)						100-YR PRIN SPWY DESIGN STORM				RUNOFF = 5.70 IN, PEAK FLOW = 841 CFS					
35.5	0	0.0		15		5.6	53.0 E	1246	4.1	1010	55.5	427	58.5	29	51	*****
40.2	100	0.3	1060	29	3698	10.2	42.7 E	234	0.8	4520	45.2	54	48.2	18	19	0.20
43.7	233	0.8	5050	46	2542	13.7	46.2 E	410	1.4	2870	48.5	71	51.5	22	27	0.43
48.4	500	1.7	2810	70	2018	18.4	50.9 E	794	2.5	1770	53.3	283	56.3	26	41	0.81
51.9	901	3.0	1670	194	776	21.9	54.4 E	1640	5.5	920	56.6	500	59.8	30	57	1.26
SITE-SS-2715	CA= 1.01 SQ MI = 646 AC						USGS QUAD-HANOVER,MASS				LATITUDE 42-05-32		LONGITUDE 70-45-35			
SITE RATING (3)	STREAM WATER QUALITY (B)						100-YR PRIN SPWY DESIGN STORM				RUNOFF = 5.80 IN, PEAK FLOW = 335 CFS					
47.8	0	0.0		8		1.7	57.5 E	224	4.1	2380	59.9	40	63.0	17	26	*****
53.5	100	1.9	7640	25	3054	7.6	56.0 E	178	3.3	4290	58.5	37	61.5	16	22	0.16
56.3	177	3.3	4700	31	2636	10.3	58.8 E	271	5.0	3060	61.1	45	64.1	18	30	0.24
58.5	253	4.6	3280	37	2250	12.5	61.0 E	362	6.6	2290	63.5	53	66.5	20	38	0.32
62.0	406	7.5	2020	48	1701	16.1	64.6 E	547	10.1	1500	67.1	66	70.0	24	52	0.43
62.5	424	7.8	2070	50	1773	16.5	65.0 E	568	10.5	1550	67.3	67	70.0	24	52	0.45
SITE-SS-2716	CA= 3.58 SQ MI = 2291 AC						USGS QUAD-HANOVER,MASS				LATITUDE 42-05-09		LONGITUDE 70-45-33			
SITE RATING (2)	STREAM WATER QUALITY (B)						100-YR PRIN SPWY DESIGN STORM				RUNOFF = 5.80 IN, PEAK FLOW = 980 CFS					
18.2	0	0.0		24		1.6	29.0 E	1090	5.6	740	31.4	200	35.4	19	27	*****
25.2	545	2.9	1850	122	828	8.7	29.7 E	1221	6.4	830	32.3	217	35.3	19	27	0.77
28.5	1000	5.1	1250	156	803	12.0	33.0 E	1892	9.8	660	35.5	287	39.2	23	45	1.20
31.2	1455	7.6	1000	196	744	14.6	33.7 E	2023	10.6	720	36.0	300	39.0	23	45	1.56
33.3	1909	10.0	870	239	697	16.7	35.8 E	2605	13.6	640	38.3	346	41.4	25	57	1.87

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-SOUTH SHORE — SUBWATERSHED NORTH RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	STORAGE IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	TYPE	STORAGE AT CREST AC FT	STORAGE AT CREST IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-SS-2717 DA= 1.05 SQ MI = 672 AC USGS QUAD-HANOVER,MASS LATITUDE 42-07-05 LONGITUDE 70-45-47																	
SITE RATING (3) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 5.80 IN, PEAK FLOW = 348 CFS																	
47.7	0	0.0		3		5.6	63.5	E	232	4.1	2640	66.0	45	69.1	27	22	*****
59.0	100	1.7	8360	20	4239C	17.0	61.5	E	167	3.0	5010	63.9	37	66.9	25	18	0.16
62.4	186	3.3	4430	31	2626C	20.4	64.9	E	285	5.1	2890	67.3	50	70.3	28	25	0.26
66.8	358	6.4	2310	48	1716C	24.7	69.3	E	499	8.8	1660	71.6	68	74.6	33	36	0.40
70.0	530	9.5	1660	60	1454C	28.0	72.5	E	705	12.6	1250	74.8	81	77.8	36	47	0.53
71.3	616	11.0	1660	66	1547C	29.2	73.8	E	804	14.3	1270	76.1	87	79.1	37	53	0.58

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

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Existing Site SS-2701 (Turner Pond)

Location: On Second Herring Brook about 2,000 feet downstream from Cross Street in Norwell, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°10'21" Longitude: 70°47'14"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
5	10	400	0.63

Potential for Expansion: Please refer to Site Data and Design Summary Table for Potential Site SS-2701

Remarks: The dam is an earthfill structure. The spillway is a stone-walled structure with concrete floor. The weir is about 5.5 feet long and 2.5 feet deep and has provision for flashboards. Trees and brush are growing on the dam. Seepage was noted along the downstream toe of the dam.

Ownership and Use: The pond is owned by Mr. Cummings and is used for recreation.

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Existing Site SS-2716

Location: On Pudding Brook about 4,800 feet upstream from Route 53 in Pembroke, Mass.

Hanover, Mass. USGS quadrangle

Latitude: 42°05'09" Longitude: 70°45'33"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
110	8	2,300	3.59

Potential for Expansion: Please refer to Site Data and Design Summary Table for Potential Site SS-2716.

Remarks: The dam is a long earthfill structure constructed of sandy material. The spillway is a two-bay concrete structure with flashboard control. Each bay is about 4 feet wide and 4 feet deep. There is also a concrete weir about 4 feet long and four feet deep with flashboard control which delivers water to a cranberry bog. Concrete in the main spillway is spalled and broken in places.

Ownership and Use: The pond is owned by David Mann and is used for cranberry bog irrigation and recreation.

****

Existing Site SS-2717 (Magoun Pond)

Location: On an unnamed tributary to the North River about 2,300 feet upstream from Union Street in Marshfield, Mass.

Hanover, Mass. USGS quadrangle

Latitude: 42°07'04" Longitude: 70°45'42"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
10	15	650	1.02

Potential for Expansion: Please refer to Site Data and Design Summary Table for Potential Site SS-2717.

Remarks: The dam is an earthfill structure. The spillway is a concrete weir about 6 feet long and 4 feet deep. The spillway has provision for flashboards. The downstream channel has stone walls for about 50 feet. Concrete in the spillway is spalled and broken in places. Trees are growing on the dam.

Ownership and Use: The pond is owned by Dr. Hilda Gerry and is used for recreation.

****

Existing Site SS-2719 (Wampatuck Pond)

Location: On Indian Head Brook at Liberty Street in Hanson, Mass.

Hanover, Mass. USGS quadrangle

Latitude: 42°03'53" Longitude: 70°51'56"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
65	10	1,570	2.45

Potential for Expansion: Limited. A sewage disposal plant located upstream would be affected. A large area of shallow water would be created by expansion.

Remarks: Liberty Street forms the dam. A culvert carries water under Liberty Street. Two bays of flashboards control the water level.

Ownership and Use: The pond is owned by the town of Hanson and is used for recreation.

****

Existing Site SS-2720 (Trout Pond)

Location: On Rocky Run about 1,750 feet upstream from Indian Head River on the Pembroke-Hanson town line.

Hanover, Mass. USGS quadrangle

Latitude: 42°05'27" Longitude: 70°50'44"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
3	20	300	0.47

Potential for Expansion: Raising the pond level by 10 feet would creat a 30 acre pool. Washington Street would be affected.

Remarks: The dam is an old stone structure which has recently been capped with concrete. The principal spillway is an 8-foot long weir notch in the concrete cap. Water leaks through the stone work beneath the concrete cap.

Ownership and Use: The pond is owned by Dr. Bruce Roberts and is not used for a specific purpose.

****

Existing Site SS-2721 (Factory Pond)

Location: On Drinkwater River about 700 feet upstream from Center Street on the Hanson-Hanover town line.

Hanover, Mass. USGS quadrangle

Latitude: 42°05'20" Longitude: 70°52'04"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
55	10	12,300	19.22

Potential for Expansion: Limited. About 25 buildings would be affected by expansion.

Remarks: The dam is an earthfill structure. The principal spillway is a stone masonry and concret weir about 125 feet long. There is also a 7-foot wide sluiceway which delivered water to an old mill.

Ownership and Use: Ownership of the pond was not determined. The pond is used for recreation.

****

Existing Site SS-2722 (Forge Pond)

Location: On the Drinkwater River just downstream from King Street in Hanover, Mass.

Whitman, Mass. USGS quadrangle

Latitude: 42°06'13" Longitude: 70°52'42"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
17	4	10,700	16.72

Potential for Expansion: Raising the pond level by 5 feet would create an 80-acre pool. King Street and at least 8 buildings would be affected.

Remarks: The dam is an earthfill structure. The spillway is a reinforced concrete structure with six bays of flashboards, each 5 feet wide Water level can be varied about 5 feet by the use of flashboards.

Ownership and Use: The pond is owned by the town of Hanover and is used for recreation.

****

Existing Site SS-2723 (Studley Pond)

Location: On French Stream at Route 123 in Rockland, Mass.

Whitman, Mass. USGS quadrangle

Latitude: 42°07'09" Longitude: 70°55'02"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
28	8	2,250	3.52

Potential for Expansion: Limited. The pond is surrounded by streets, houses, and cemeteries which would be affected.

Remarks: Route 123 forms the dam. The spillway is a concrete box culvert with flashboard control at the inlet. The upstream face of the dam is stone masonry and concrete. Gravel is being excavated from the pond at the present time and the pond has been drained.

Ownership and Use: The pond is owned by the town of Rockland and is used for recreation.

****

Existing Site SS-2724 (Hackett Pond)

Location: On Longwater Brook about 1,000 feet downstream from Webster Street in Hanover, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°08'35" Longitude: 70°52'16"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
7	10	1,225	1.91

Potential for Expansion: Limited. Route 123 and severl houses would be affected.

Remarks: The dam is an earthfill structure. The upstream slope adjacent to the spillway has been riprapped. The spillway is a concrete ogee weir about 30 feet long and 3 feet deep which leads to a concrete chute which is 8 feet wide, 5 feet deep, and 30 feet long.

Ownership and Use: The pond is owned by the town of Hanover and is not used for a specific purpose.

Existing Site SS-2725 (Mill Pond)

Location: On Third Herring Brook about 1,200 feet downstream from Mill Street in Hanover, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°08'28" Longitude: 70°50'07"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
5	12	1,525	2.38

Potential for Expansion: Limited by an upstream shopping plaza and a sewage treatment plant.

Remarks: The dam is an earthfill structure. The fill material has been eroded around both sides of the principal spillway structure. All flow is around the spillway structure. The dam and spillway are in poor condition.

Ownership and Use: Ownership of the pond was not determined. The pond is not used for a specific purpose.

Existing Site SS-2726 (Jacobs Pond)

Location: On Third Herring Brook at Route 123 in Norwell, Mass

Cohasset, Mass. USGS quadrangle

Latitude: 42°09'30" Longitude: 70°50'51"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
55	15	950	1.48

Potential for Expansion: Limited. The east side of the pond and expansion area is a residential area which would be affected.

Remarks: Route 123 forms the dam. The spillway is a 72-inch concrete culvert with flashboard control at the inlet. It appears that water may overtop Route 123 in periods of high flow.

Ownership and Use: The pond is owned by the town of Norwell and is used for recreation.

****

Existing Site SS-2727

Location: On Second Herring Brook about 1,000 feet upstream from Cross Street in Norwell, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°10'39" Longitude: 70°46'43"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
10	12	85	0.13

Potential for Expansion: The small drainage area limists expansion potential.

Remarks: The dam is an earthfill structure. The spillway is a concrete weir about 8 feet long and 2 feet deep. There is also a spillway near the right abutment to control flow to cranberry bogs. Seepage was noted along the downstream slope of the dam.

Ownership and Use: The pond is owned by Coles and Leclair and is used for cranberry bog irrigation.

****

Existing Site SS-2728 (Tack Factory Pond)

Location: On Herring Brook just upstream from Route 3-A in Scituate, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°11'11" Longitude: 70°45'41"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
7	6	2,450	3.83

Potential for Expansion: Raising the pond level by 10 feet would create a 90 acre pool.

Remarks: An abandoned section of Route 3-A forms the dam. Water from Existing Site SS-2729(New Water Supply Reservoir) creates a tailwater condition against the dam. The spillway is a concrete weir. Concrete in the spillway is spalled and cracked. There is very little freeboard on the dam.

Ownership and Use: The pond is owned by the town of Scituate and is used for water supply.

****

Existing Site SS-2729 (New Water Supply Reservoir)

Location: On Herring Brook about 2,900 feet downstream from Route 3A in Scituate, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°11'07" Longitude: 70°45'11"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
80	25	2,850	4.45

Potential for Expansion: Limited by housing projects on both abutments. Expansion would affect Route 3A.

Remarks: The dam is an earthfill structure. The upstream slope of the dam is riprapped. The principal spillway is an 18-inch cast iron pipe to handle normal flow. The emergency spillway is a concrete ogee weir about 25 feet long and 5 feet deep. There is also a concrete fish ladder. The dam and spillways are in good condition.

Ownership and Use: The reservoir is owned by the town of Scituate and is used for water supply.

****

Existing Site SS-2730 (Old Oaken Bucket Pond)

Location: On Herring Brook, the intersection of Route 3A and 123 in Scituate, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°10'40" Longitude: 70°45'01"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
10	5	3,400	5.31

Potential for Expansion: Limited. Development around the pond and a pumping station would be affected. Scituate's New Water Supply Reservoir is located immediately upstream.

Remarks: The dam is an earthfill structure. The spillway is a series of concrete drop structures. The spillway on the right abutment was recently constructed. There is also a fish ladder near the left abutment. Large trees are growing on the dam. Water has overtopped the center area of the dam.

Ownership and Use: The pond is owned by the town of Scituate and is used for water supply.

****

Existing Site SS-2732 (Torrey Pond)

Location: On Second Herring Brook at Mill Lane in Norwell, Mass.

Cohasset, Mass. USGS quadrangle

Latitude: 42°09'56" Longitude: 70°47'25"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Acres (Acres)	(Sq. Miles)
15	10	650	1.02

Potential for Expansion: Limited. A large area of shallow water would be created by expansion into Dead Swamp.

Remarks: The dam is an earthfull structure. The spillway is a concrete weir with flashboards. The weir is about 4 feet long and 4 feet deep. Concrete in the spillway is cracked and spalled. Trees and brush are growing on the dam.

Ownership and Use: The pond is owned by Robert Zildjin and is used for recreation.

****

Existing Site SS-2733 (Hatch Pond)

Location: On an unnamed tributary to the North River about 400 feet downstream from Union Street in Marshfield, Mass.

Hanover, Mass.USGS quadraangle.

Latitude: 42°07'24" Longitude: 70°46'07"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
1	8	1,200	1.88

Potential for Expansion: Limited. Pine Street, Union Street, and several houses would be affected. Sandy soils may limit expansion potential.

Remarks: The dam is an earthfill structure. The spillway is a two-bay timber flume. There is also a mill race near the right abutment. Trees are growing on the dam and seepage through the dam was noted.

Ownership and Use: The pond is owned by the Marshfield Historical Society. The pond and mill are historical landmarks.

****

Existing Site SS-2734 (Oakman Pond)

Location: On an unnamed tributary to the North River about 750 feet upstream from Union Street in Marshfield, Mass.

Hanover, Mass. USGS quadrangle

Latitude: 42°07'14" Longitude: 70°45'59"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
5	10	825	1.29

Potential for Expansion: Raising the pond level by 20 feet would create a 20 acre pool. Several gravel roads would be affected.

Remarks: The dam is an earthfill structure. The downstream face ia a vertical stone wall. The spillway inlet is a concrete weir structure about 4 feet wide, which outlets to twin 24-inch concrete culverts. The spillway inlet has provision for flashboards. There is also an old mill weir located to the right of the principal spillway.

Existing Site SS-2734 (Oakman Pond) (cont'd)

Ownership and Use: The pond is owned by Dorothy Thompson and is used for recreation.

****

Existing Site SS-2736

Location: On an unnamed tributary to Pudding Brook near Arnold School in Pembroke, Mass.

Hanover, Mass. USGS quadrangle

Latitude: 42°05'28"   Longitude: 70°45'25"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
12	8	75	0.12

Potential for Expansion: The small drainage area limits expansion potential.

Remarks: The dam is an earthfill structure. The upstream face is a concrete retaining wall. The spillway is a concrete drop structure with flashboards which outlets to a concrete box culvert. The dam and spillway are in good condition.

Ownership and Use: The pond is owned by the Association for Cultural Interchange and is used for recreation.

****

Existing Site SS-2737 (Randall Pond)

Location: On Pudding Brook about 800 feet upstream from Spring Street in Pembroke, Mass.

Hanover, Mass. USGS quadrangle

Latitude: 42°05'17" Longitude: 70°45'30"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
2	10	775	1.21

Potential for Expansion: Expansion would create a large area of shallow water as the pond would be expanded into a large wetland area.

Remarks: A gravel driveway forms the dam. The spillway is a concrete sluiceway with two bays of flashboards. Each bay is about 3 feet wide and 3 feet deep.

Ownership and Use: The pond is owned by the Association for Cultural Interchange and is not used for a specific purpose.

****

Existing Site SS-2739 (Mill Pond)

Location: On Herring Brook about 400 feet downstream from Hobomock Street in Pembroke, Mass.

Hanover, Mass. USGS quadrangle

Latitude: 42°03'21" Longitude: 70°48'13

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
7	5	2,700	4.22

Potential for Expansion: Topography limits any significant increase in surface area. Sandy soils may limit expansion potential.

Remarks: The dam is an earthfill structure. The spillway is a concrete weir with flashboard control. The weir is about 4 feet long and 3 feet deep. Trees are growing on the dam. Water has eroded the dam near the left abutment. Concrete in the spillway is crumbling.

Ownership and Use: The pond is owned by George Gould and is used for cranberry bog irrigation.

****

Existing Site SS-2740 (Indian Head River Dam)

Location: On Indian Head River about 300 feet upstream from Elm Street on the Hanover-Pembroke town line.

Hanover, Mass. USGS quadrangle

Latitude: 42°06'00" Longitude: 70°48'59"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
15	12	27,100	42.37

Potential for Expansion: Topography limits any significant increase in surface area without affecting many facilities.

Remarks: The dam is an earthfill structure. The upstream face is a concrete wall. The spillway is a concrete weir about 75 feet long and four feet deep. Water falls about 10 feet to a wide channel through a series of bays, each about 10 feet wide. Each bay has been filled with rocks. There is also a concrete fish ladder. The dam was renovated in 1970. Dam and spillway system are in good condition.

Ownership and Use: The dam is owned by the towns of Hanover and Pembroke and is used for recreation.

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SS-2701
Turner Pond

SS-2720
Trout Pond

SS-2717
Magoun Pond

SS-2721
Factory Pond

SS-2719
Wampatuck Pond

EXISTING RESERVOIRS
SUBWATERSHED SS-27
NORTH RIVER

SS-2722
Forge Pond

SS-2726
Jacobs Pond

SS-2723
Studleys Pond

SS-2728
Tack Factory Pond

SS-2724
Hackett Pond

EXISTING RESERVOIRS
SUBWATERSHED SS-27
NORTH RIVER

LEGEND

WATERSHED BOUNDARY

DRAINAGE AREA ABOVE STRUCTURE

POTENTIAL SITE SHOWING BENEFICIAL POOL FOR LARGEST STRUCTURE

EXISTING POND OR RESERVOIR

LOCATION MAP

2703
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SOURCE – USGS Quad Sheets
Franklin – 1964
Holliston – 1969
Medfield – 1970
Wrentham – 1964

NORTH RIVER (SS-27)
SOUTH SHORE STUDY AREA
MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOUTH SHORE STUDY AREA
SITE DATA FOR

Subwatershed SS-28, South River

This subwatershed covers about 20,900 acres in Duxbury, Marshfield and Pembroke, in Plymouth County.

The major streams in this subwatershed are the South River and Green Harbor River. The South River originates in Duxbury and flows generally northeasterly through Marshfield, then turns northwesterly and flows into Massachusetts Bay. Green Harbor River originates in Marshfield and flows generally easterly into Massachusetts Bay. Elevations range from a high of about 254 feet on Carolina Hill in Marshfield to tide water in Massachusetts Bay.

Geology in this subwatershed is characterized by granite bedrock overlain by 20 to 80 feet of outwash sand and gravel or glacial till.

Seven potential reservoir sites and 5 existing reservoirs were studied.

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POTENTIAL SITE SS-2801

Location: On Hannah Eames Brook about 500 feet upstream from Summer Street in Marshfield, Mass.

Scituate, Mass. USGS quadrangle

Latitude: 42°09'05" Longitude: 70°44'03"

Facilities Affected:

Facility	Elevation
Industrial building	55
Route 3-A	55

Geologic Conditions: Both abutments are glacial till with cobbles and boulders. Depth to granite bedrock in the foundation is estimated to be from 20 to 25 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE SS-2802

Location: On Littles Creek about 1600 feet upstream from Summer Street in Marshfield, Mass.

Scituate, Mass. USGS quadrangle

Latitude: 42°07'53" Longitude: 70°42'43"

Facilities Affected:

Facility	Elevation
Church Street	55
Ferry Street	55
Grove Street	55
6 houses	45
Industrial building	45
Garage	45
2 sheds	45
Swimming pool	45
Tennis court	45
House	40
2 houses	35
3 houses	30

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash with some silt. Depth to bedrock in the foundation is estimated to be from 50 to 60 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE SS-2803

Location: On Furnace Brook about 800 feet upstream from School Street in Marshfield, Mass.

Duxbury, Mass. USGS quadrangle

Latitude: 42°07'13" Longitude: 70°44'31"

POTENTIAL SITE SS-2803 (continued)

Facilities Affected:

Facility	Elevation
House	120
Pine Street	120
3 houses	115
Church and rectory	115
2 sheds	115
House	110
Commercial building	110
2 houses	105
Main Street-Route 3-A	105
Shed	105
2 houses	100
2 sheds	100
House	95
shed	95

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to bedrock in the foundation is estimated to be from 50 to 60 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE SS-2804

Location: On an unnamed tributary to Chandlers Pond and the South River about 2300 feet upstream from Mt. Skirgo Street in Marshfield, Mass.

Duxbury, Mass. USGS quadrangle

Latitude: 42°05'55" Longitude: 70°43'53"

Facilities Affected:

Facility	Elevation
8 houses	85
Swimming pool	85
2 houses	80
Industrial building	80

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to granite bedrock in the foundation is estimated to be from 15 to 25 feet. Waterholding capabilities appear to be poor. Leakage is expected through the left abutment. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE SS-2805

Location: On Keene Brook about 200 feet upstream from Union Street in Duxbury, Mass.

Hanover, Mass. USGS quadrangle

Latitude: 42°04'21" Longitude: 70°45'21"

Facilities Affected: None below elevation 70.

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to bedrock in the foundation is estimated to be from 50 to 60 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE SS-2806

Location: On Furnace Brook at Furnace Pond about 1400 feet downstream from Furnace Street in Marshfield, Mass.

Duxbury, Mass. USGS quadrangle

Latitude: 42°06'19" Longitude: 70°43'36"

Facilities Affected:

Facility	Elevation
House	80
2 sheds	80
3 houses	75
4 houses	70
VFW Hall	70
Main Street-Route 3-A	70
5 houses	65
Shed	65
3 houses	60
Furnace Street	60
House	55
Shed	55
Pumping station	45

POTENTIAL SITE SS-2806 (Furnace Pond) (cont'd)

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to bedrock in the foundation is estimated to be from 70 to 80 feet. Waterholding capabilities appear to be poor to fair. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE SS-2807

Location: On Bares Brook about 800 feet upstream from Summer Street in Marshfield, Mass.

Scituate, Mass. USGS quadrangle

Latitude: 42°08'53" Longitude: 70°44'00"

Facilities Affected:

Facility	Elevation
2 houses	95
Garage	95
House	90

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to granite bedrock in the foundation is estimated to be from 40 to 50 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and the foundation. Borrow material for dam construction was located near the site.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

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SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-SOUTH SHORE — SUBWATERSHED SOUTH RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY					DESIGN HIGH WATER		DAM			SAFE YIELD AT 95
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV +TYPE (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)		ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	PERCENT CHANCE (MGD)
SITE-SS-2801	DA= 0.92 SQ MI = 589 AC		USGS QUAD-SCITUATE,MASS				LATITUDE 42-09-05 LONGITUDE 70-44-03										
SITE RATING (1)	STREAM WATER QUALITY (B)		100-YR PRIN SPWY DESIGN STORM				RUNOFF = 5.70 IN, PEAK FLOW = 300 CFS										
24.6	0	0.0		3		4.6	41.2 E	204	4.1	2290		43.5	41	46.5	27	45	*****
36.5	100	2.0	6060	16	3763C	16.6	39.0 E	152	3.0	3990		41.5	30	44.5	25	37	0.16
39.7	157	3.2	4140	21	3137C	19.7	42.2 E	235	4.8	2770		44.7	47	47.7	28	50	0.21
43.4	271	5.5	2760	40	1860C	23.4	45.9 E	393	8.0	1900		48.3	67	51.3	31	68	0.32
46.9	442	9.0	2080	60	1542C	26.9	49.4 E	615	12.5	1490		51.8	82	55.0	35	90	0.45
SITE-SS-2802	DA= 1.72 SQ MI = 1101 AC		USGS QUAD-SCITUATE,MASS				LATITUDE 42-07-53 LONGITUDE 70-42-43										
SITE RATING (3)	STREAM WATER QUALITY (B)		100-YR PRIN SPWY DESIGN STORM				RUNOFF = 5.70 IN, PEAK FLOW = 561 CFS										
19.7	0	0.0		7		3.8	35.2 E	381	4.1	2580		37.7	58	40.7	25	44	*****
27.0	100	1.1	12160	21	5860C	11.0	35.5 E	393	4.3	3100		37.9	59	40.9	25	45	0.18
34.3	328	3.5	4390	44	3258C	18.2	38.8 E	580	6.3	2480		41.3	73	44.3	28	61	0.43
42.0	784	8.5	2400	76	2485C	26.0	44.5 E	999	10.8	1890		46.9	98	49.9	34	96	0.81
49.4	1468	16.0	1450	109	1953C	33.4	51.9 E	1770	19.2	1210		54.3	132	57.3	41	156	1.17
SITE-SS-2803	DA= 0.86 SQ MI = 550 AC		USGS QUAD-DUXBURY,MASS				LATITUDE 42-07-13 LONGITUDE 70-44-31										
SITE RATING (3)	STREAM WATER QUALITY (B)		100-YR PRIN SPWY DESIGN STORM				RUNOFF = 5.70 IN, PEAK FLOW = 281 CFS										
87.1	0	0.0		4		3.2	99.3 E	190	4.1	3490		101.6	34	104.6	21	29	*****
95.9	100	2.2	9810	21	47000	11.8	98.4 E	165	3.5	5940		100.8	32	103.8	20	27	0.15
99.5	190	4.1	5290	29	34410	15.5	102.0 E	279	6.1	3600		104.5	41	107.5	23	38	0.25
104.6	371	8.1	2890	41	26170	20.7	107.1 E	488	10.6	2200		109.6	52	112.6	29	57	0.39
108.6	552	12.0	2960	50	32550	24.6	111.1 E	693	15.1	2350		113.3	66	116.3	32	74	0.50
110.3	642	14.0	2940	55	34580	26.4	112.8 E	797	17.4	2370		115.1	72	118.1	34	83	0.54

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-SOUTH SHORE — SUBWATERSHED SOUTH RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	TYPE	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-SS-2804 DA= 0.60 SQ MI = 384 AC USGS QUAD-DUXBURY,MASS LATITUDE 42-05-55 LONGITUDE 70-43-53																	
SITE RATING (3)			STREAM WATER QUALITY (B)				100-YR PRIN SPWY DESIGN STORM					RUNOFF = 5.70 IN, PEAK FLOW = 121 CFS					
43.7	0	0.0		2		3.6	61.0	E	133	4.1	3630	63.3	13	66.3	26	37	*****
58.5	100	3.0	5300	10	5104C	18.6	61.0	E	133	4.1	3990	63.4	13	66.5	26	38	0.14
63.5	158	4.9	4040	13	4801C	23.5	66.0	E	198	6.1	3230	68.4	16	71.4	31	56	0.18
70.8	274	8.6	3120	20	4262C	30.7	73.3	E	340	10.6	2520	75.6	37	78.6	39	94	0.28
76.5	448	14.0	2570	40	2866C	36.5	79.0	E	563	17.6	2050	81.1	56	84.1	44	131	0.37
SITE-SS-2805 DA= 0.83 SQ MI = 531 AC USGS QUAD-HANOVER,MASS LATITUDE 42-04-21 LONGITUDE 70-45-21																	
SITE RATING (3)			STREAM WATER QUALITY (B)				100-YR PRIN SPWY DESIGN STORM					RUNOFF = 5.70 IN, PEAK FLOW = 271 CFS					
53.3	0	0.0		6		1.2	60.5	E	184	4.1	1820	62.8	57	65.8	14	16	*****
58.4	100	2.3	4310	33	1324C	6.4	60.9	E	206	4.6	2100	63.4	61	66.4	14	18	0.15
60.0	155	3.5	3250	40	1249C	8.0	62.5	E	285	6.4	1770	64.9	70	67.9	16	23	0.21
61.1	210	4.8	2700	48	1191C	9.2	63.6	E	355	8.0	1600	66.1	78	69.1	17	29	0.26
62.3	266	6.0	2400	54	1175C	10.3	64.8	E	426	9.6	1490	67.1	84	70.8	19	38	0.31
SITE-SS-2806 DA= 1.81 SQ MI = 1158 AC USGS QUAD-DUXBURY LATITUDE 42-06-19 LONGITUDE 70-43-36																	
SITE RATING (3)			STREAM WATER QUALITY (B)				100-YR PRIN SPWY DESIGN STORM					RUNOFF = 5.70 IN, PEAK FLOW = 567 CFS					
45.5	0	0.0		5		5.5	61.1	E	401	4.1	3060	63.5	68	66.6	27	44	*****
54.0	100	1.0	11550	25	4636C	14.0	56.5	E	191	2.0	6040	59.0	45	62.0	22	29	0.18
59.6	309	3.2	4930	48	3198C	19.7	62.1	E	461	4.8	3300	64.6	74	67.6	28	48	0.43
66.1	726	7.5	2580	82	2278C	26.2	68.6	E	965	10.0	1940	71.1	108	74.1	34	78	0.78
72.5	1351	14.0	1650	114	1951C	32.5	75.0	E	1664	17.2	1340	77.3	137	80.0	40	113	1.14

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-SOUTH SHORE — SUBWATERSHED SOUTH RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-SS-2807	DA= 0.58 SQ MI = 371 AC						USGS QUAD-SCITUATE,MASS				LATITUDE 42-08-53		LONGITUDE 70-44-00			
SITE RATING (3)			STREAM WATER QUALITY (8)				100-YR PRIN SPWY DESIGN STORM				RUNOFF = 5.70 IN, PEAK FLOW = 189 CFS					
27.0	0	0.0		1		7.0	55.0 E	128	4.1	3860	57.3	11	60.3	40	36	*****
52.1	100	3.2	5660	8	72350	32.2	54.6 E	125	4.0	4540	57.0	11	60.0	40	36	0.14
62.3	212	6.8	3320	14	49790	42.3	64.8 E	253	8.2	2780	67.1	17	70.1	50	69	0.23
74.8	437	14.1	2340	23	44870	54.8	77.3 E	501	16.2	2040	79.6	27	82.6	63	145	0.37
86.8	773	25.0	1860	34	42620	66.8	89.3 E	865	28.0	1660	91.5	39	94.5	75	257	0.47

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

Existing Site SS-2806 (Furnace Pond)

Location: On Furnace Brook about 1,400 feet downstream from Furnace Street in Marshfield, Mass.

Duxbury, Mass.USGS quadrange

Latitude: 42°06'20" Longitude 70°43'38"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
5	10	1,150	1.80

Potential for Expansion: Please refer to Site Data and Design Summary Table for Potential Site SS-2806.

Remarks: The dam is an earthfill structure with vertical slopes and stone walls both up and downstream. The principal spillway is a concrete weir about 15 feet long and 2 feet deep. The emergency spillway is a vegetated channel on the left abutment. The principal spillway is not operating as water is flowing under the concrete. Large trees are growing on the dam.

Ownership and Use: The pond is owned by the town of Marshfield - Conservation Commission and is used for wildlife habitat.

****

Existing Site SS-2808 (Murdocks Pond)

Location: On Macombers Creek about 900 feet downstream from Summer Street in Marshfield, Mass.

Scituate, Mass. USGS quadrangle

Latitude: 42°09'05" Longitude: 42°43'45"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
10	15	1,050	1.64

Potential for Expansion: Topography limits any significant increase in surface area. Several streets and houses would be affected by expansion.

Remarks: Damon Point Road forms the dam. The spillway is a concrete box drop inlet. Flow is controlled with flashboards. A stone box culvert carries flow through the road embankment. The spillway inlet is about 4 feet wide, 7 feet long and has a 5 foot drop to the structure floor.

Ownership and Use: The pond is owned by the town of Marshfield and is used for recreation.

****

Existing Site SS-2810 (Parsons Pond)

Location: On Furnace Brook at Old Plain Street in Marshfield, Mass.

Duxbury, Mass. USGS quadrangle

Latitude: 42°05'49" Longitude: 70°43'23"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
3	6	1,500	2.34

Potential for Expansion: Raising the pond level by 15 feet would create a 50 acre pool. Sandy soils may limit expansion potential.

Remarks: Old Plain Street forms the dam. The spillway is a concrete weir with flashboard control. The weir is about 4 feet long and 4 feet deep. Flow passes under Old Plain Street in a 4 foot by 5 foot concrete box culvert. There is about one foot of freeboard between the water level and Old Plain Road.

Ownership and Use: The pond is owned by the town of Marshfield - Conservation Commission and is used for wildlife habitat.

****

Existing Site SS-2811 (Chandlers Pond)

Location: On the South River about 600 feet upstream from Mt. Skirgo Street in Marshfield, Mass.

Duxbury, Mass. USGS quadrangle

Latitude: 42°05'33" Longitude: 70°43'23"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
10	4	5,600	8.75

Potential for Expansion: Raising the pond level by 10 feet would create a 90 acre pool. Three streets and several houses would be affected.

Remarks: The dam is an earthfill structure. The spillway is a series of three bays, each 4 feet wide and 2 feet deep with provision for flashboards.

Ownership and Use: The pond is owned by Camp Millbrook and is used for recreation.

****

Existing Site SS-2812 (Keene Pond)

Location: On Keene Brook about 1,200 feet upstream from Keene Street in Duxbury, Mass.

Hanover, Mass. USGS quadrangle

Latitude: 42°04'42" Longitude: 70°45'02"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
10	8	650	1.02

Potential for Expansion: Raising the pond level by 5 feet would create a 30 acre pool. Camp Wing buildings might be affected. Sandy soils may limit expansion potential.

Remarks: The dam is an earthfill structure. The downstream face is constructed of concrete and rubble. The principal spillway is a gate-controlled 30-inch boiler-plate pipe. The emergency spillway is another 30-inch boiler-plate pipe. Leakage was noted near an old spillway which has been covered with fill material. Trees are growing on the dam. Erosion has occurred on the dam.

Ownerhip and Use: The pond is owned by Camp Wing and is used for recreation.

****

Existing Site SS-2813

Location: On Green Harbor River about 4,400 feet upstream from Webster Street in Marshfield, Mass.

Duxbury, Mass. USGS quadrangle

Latitude: 42°04'21" Longitude: 70°41'31"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
17	4	1,350	2.11

Potential for Expansion: Sandy soils may limit expansion potential.

Existing Site SS-2813 (cont'd)

Remarks: The dam is an earthfill structure. The spillway is a concrete weir with flashboard control. There is also a side channel controlled by flashboards which delivers water to a cranberry bog. The dam is constructed of sandy material and seepage was noted along the downstream toe in many places.

Ownership and Use: The pond is owned by John Garretson and is used for cranberry bog irrigation.

****

Existing Site SS-2814 (Wrights Reservoir)

Location: On Green Harbor River about 2,700 feet upstream from Enterprise Street in Duxbury, Mass.

Duxbury, Mass.USGS quadrangle

Latitude: 42°03'43" Longitude: 70°42'12"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
40	10	500	0.78

Potential for Expansion: Sandy soils may limit expansion potential.

Remarks: The dam is an earthfill structure. The spillway is a concrete weir with flashboard control which outlets through a concrete pipe. The upstream slope of the dam has eroded due to wave action.

Ownership and Use: The reservoir is owned by Lawrence Pink and is used for recreation and cranberry bog irrigation.

****

SS-2806
Furnace Pond

SS-2810
Parsons Pond

SS-2811
Chandlers Pond

SS-2813
Garretson Bog Reservoir

SS-2814
Wright Reservoir

EXISTING RESERVOIRS
SUBWATERSHED SS-28
SOUTH RIVER

SS-2729

SS-2736

SS-2740

SS-2739
Mill Pond

SS-2730
Old Oaken Bucket Pond

EXISTING RESERVOIRS
SUBWATERSHED SS-27
NORTH RIVER

USDA-SCS-HYATTSVILLE, MD. 1974

SOUTH SHORE STUDY AREA
SITE DATA FOR

Subwatershed SS-29, Jones River

This subwatershed covers about 28,341 acres in Duxbury, Halifax, Kingston, Marshfield, Plymouth and Plympton, in Plymouth County. There is a U.S. Geological Survey stream gage on the Jones River in Kingston.

The major stream in this subwatershed is the Jones River, which originates in Silver Lake in Kingston and flows generally easterly into Kingston Bay. The main tributary to the Jones River is Pine Brook, which originates in Duxbury and flows southerly to the confluence in Kingston. Elevations range from a high of about 280 feet in Plymouth to tidewater in Kingston Bay.
Geology in this subwatershed is characterized by granite bedrock overlain by 5 to 80 feet of outwash sand and gravel.

Five potential reservoir sites and 9 existing reservoirs were studied.

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POTENTIAL SITE SS-2901

Location: On West Brook about 200 feet upstream from Tremont Street in Duxbury, Mass.

Duxbury, Mass. USGS quadrangle

Latitude: 42°03'12" Longitude: 70°41'37"

Facilities Affected:

Facility	Elevation
4 houses	35
5 garages	35
2 garages	30
House	25
Commercial building	25
Water wells	20
Garage	20

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to granite bedrock in the foundation is not known but may be from 70 to 80 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE SS-2903

Location: On the Jones River about 4500 feet upstream from Wapping Road, Route 106, in Kingston, Mass.

Plympton, Mass. USGS quadrangle

Latitude: 41°59'54" Longitude: 70°45'50"

Facilities Affected:

Facility	Elevation
21 houses	45
3 garages	45
11 houses	40
West Street	40
Grove Street	40
Shed	40
2 houses	35
2 garages	35
Swimming pool	45

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to granite bedrock in the foundation is estimated to be from 50 to 65 feet. Waterholding capabilities appear to be fair. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location. Inflow to the site may be sufficient to maintain a pool in spite of losses through the abutments and foundation.

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POTENTIAL SITE SS-2904

Location: On Smelt Brook about 2100 feet upstream from Route 3 in Kingston, Mass.

Plymouth, Mass. USGS quadrangle

Latitude: 41°58'26" Longitude: 70°43'09"

Facilities Affected:

Facility	Elevation
5 houses	115
Shed	115
5 houses	110
Garage	110
Raboth Road	105

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to bedrock in the foundation is estimated to be from 60 to 75 feet. Waterholding capabilities appear to be fair. There appears to be enough fine material to prevent excessive leakage through the abutments. Pervious borrow material for dam construction was located near the site; impervious material was not located.

POTENTIAL SITE SS-2904 (continued)

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE SS-2905

Location: On Furnace Brook about 600 feet upstream from the Jones River in Kingston, Mass.

Plymouth, Mass. USGS quadrangle

Latitude: 41°59'26" Longitude: 70°44'42"

Facilities Affected:

Facility	Elevation
Pumphouse	45

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash probably underlain by bedrock. Depth to granite bedrock in the foundation is estimated to be from 5 to 15 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location. Waterholding capabilities might be improved if a cut-off to bedrock can be made.

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POTENTIAL SITE SS-2906

Location: On Fountainhead Brook about 2300 feet upstream from Wapping Road, Route 106, in Kingston, Mass.

Plympton, Mass. USGS quadrangle

Latitude: 41°59'10" Longitude: 70°45'46"

Facilities Affected:

Facility	Elevation
Utility poles	95

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to granite bedrock in the foundation is estimated to be from 35 to 45 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

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SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-SOUTH SHORE — SUBWATERSHED JONES RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	TYPE	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	PERCENT CHANCE (MGD)
SITE-SS-2901	DA= 1.38 SQ MI = 883 AC		USGS QUAD-DUXBURY,MASS											LATITUDE 42-03-12		LONGITUDE 70-41-37	
SITE RATING (3)	STREAM WATER QUALITY (B)						100-YR PRIN SPWY DESIGN STORM					RUNOFF = 5.50 IN, PEAK FLOW = 401 CFS					
16.7	0	0.0		4		4.8	25.1	E	305	4.1	2110	27.5	120	31.5	20	13	*****
22.1	100	1.4	7530	46	1651C	10.1	24.6	E	267	3.5	2820	27.0	114	30.0	18	11	0.17
23.7	189	2.5	4140	67	1166C	11.7	26.2	E	413	5.6	1900	28.5	133	31.5	20	13	0.28
24.9	279	3.8	2890	83	965C	12.8	27.4	E	540	7.3	1490	29.7	149	33.0	21	15	0.37
25.9	368	5.0	2300	97	875C	13.8	28.4	E	662	9.0	1280	30.2	159	33.5	22	16	0.45
SITE-SS-2903	DA= 16.13 SQ MI = 10323 AC		USGS QUAD-PLYMPTON,MASS											LATITUDE 41-59-54		LONGITUDE 70-45-50	
SITE RATING (2)	STREAM WATER QUALITY (B)						100-YR PRIN SPWY DESIGN STORM					RUNOFF = 5.50 IN, PEAK FLOW = 1579 CFS					
32.4	0	0.0		88		4.4	42.8	E	3570	4.1	920	45.2	1299	48.2	20	31	*****
33.4	100	0.1	16280	121	13400	5.4	35.9	E	641	0.7	2540	38.3	296	41.4	13	12	0.21
38.0	1048	1.2	3370	285	12410	10.0	44.5	E	5308	6.1	670	46.7	1535	49.9	22	38	1.83
40.5	1996	2.3	1960	466	8380	12.6	40.5	T	2125	2.5	1840	45.5	1359	48.5	21	32	2.99
42.5	3184	3.6	1340	806	5290	14.5	42.5	T	3313	3.9	1290	47.0	1584	50.0	22	39	4.28
SITE-SS-2904	DA= 1.01 SQ MI = 646 AC		USGS QUAD-PLYMOUTH,MASS											LATITUDE 41-58-26		LONGITUDE 70-43-09	
SITE RATING (2)	STREAM WATER QUALITY (B)						100-YR PRIN SPWY DESIGN STORM					RUNOFF = 5.40 IN, PEAK FLOW = 312 CFS					
85.8	0	0.0		3		5.8	103.8	E	224	4.1	2680	106.1	68	109.3	29	35	*****
100.1	100	1.9	8090	13	6307C	20.1	102.6	E	171	3.2	4730	105.0	57	108.0	28	31	0.16
101.6	137	2.5	6140	26	3221C	21.6	104.1	E	234	4.3	3600	106.3	70	109.5	29	35	0.20
103.6	212	3.9	4700	46	2179C	23.7	106.1	E	358	6.6	2780	108.6	90	111.6	32	42	0.28
105.1	286	5.3	3960	59	1930C	25.2	107.6	E	466	8.7	2430	110.1	103	114.1	34	49	0.34
105.8	323	6.0	3560	64	1785C	25.7	108.3	E	523	9.7	2200	110.6	104	114.5	34	51	0.37

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-SOUTH SHORE — SUBWATERSHED-JONES RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV ++ (MSL)	TYPE	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV	HGT FT	FILL VOL (1000 CY)	PERCENT CHANCE (MGD)
SITE-SS-2905	CA= 1.45 SQ MI = 928 AC						USGS QUAD-PLYMOUTH,MASS					LATITUDE 41-59-26		LONGITUDE 70-44-42			
SITE RATING (3)			STREAM WATER QUALITY (B)				100-YR PRIN SPWY DESIGN STORM					RUNOFF = 5.40 IN, PEAK FLOW = 448 CFS					
22.6	0	0.0		8		2.5	33.5	E	321	4.1	1540	36.0	77	39.0	19	31	*****
28.4	100	1.2	8260	26	3151C	8.3	30.9	E	191	2.5	4320	33.4	57	36.4	16	22	0.17
30.4	161	2.0	5170	34	2414C	10.3	32.9	E	284	3.6	2920	35.3	72	38.4	18	28	0.25
33.0	282	3.5	3490	55	1787C	13.1	35.5	E	454	5.9	2170	38.0	93	41.0	21	38	0.37
35.0	403	5.1	2770	70	1594C	15.0	37.5	E	615	8.0	1820	39.9	108	42.9	23	47	0.49
35.9	464	6.0	2560	76	1553C	15.8	38.4	E	690	8.8	1720	40.7	113	43.7	24	51	0.53
SITE-SS-2906	CA= 0.54 SQ MI = 346 AC						USGS QUAD-PLYMPTON,MASS					LATITUDE 41-59-10		LONGITUDE 70-45-46			
SITE RATING (3)			STREAM WATER QUALITY (B)				100-YR PRIN SPWY DESIGN STORM					RUNOFF = 5.50 IN, PEAK FLOW = 157 CFS					
69.1	0	0.0		2		5.1	82.8	E	120	4.1	2390	85.0	33	88.0	24	16	*****
81.9	100	3.5	3380	19	1742C	17.9	84.4	E	163	5.6	2080	86.6	40	89.6	26	19	0.14
83.5	134	4.6	2680	26	1370C	19.5	86.0	E	215	7.5	1670	88.1	46	91.1	27	22	0.17
84.6	168	5.8	2250	31	1200C	20.7	87.1	E	264	9.2	1430	89.5	52	92.5	28	25	0.18
85.8	202	7.0	1960	36	1099C	21.7	88.3	E	311	10.8	1270	90.1	56	93.1	29	27	0.21

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

Existing Site SS-2908 (Upper Chandler Pond)

Location: On Pine Brook about 1,000 feet downstream from Valley Street on the Duxbury-Pembroke town line.

Hanover, Mass. USGS quadrangle

Latitude: 42°02'03" Longitude: 70°46'04"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
10	5	825	1.29

Potential for Expansion: Expansion would create a large area of shallow water as the pond would expand into a wetland area.

Remarks: The dam is an earthfill structure. The spillway is a sheet-steel riser with flashboard control. Two 36-inch pipes carry flow through the embankment. The spillway has two bays, each 4 feet wide and 2 feet deep. There is also a three-foot long weir with flashboards located near the right abutment.

Ownership and Use: The pond is owned by Ingrid, Lorrie, John and Eino Hill and is used for cranberry bog irrigation.

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Existing Site SS-2909 (Lower Chandler Pond)

Location: On Pine Brook at Lake Shore Drive in Pembroke, Mass.

Hanover, Mass. USGS quadrangle

Latitude: 42°01'40" Longitude: 70°46'03"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
35	15	1,450	2.27

Potential for Expansion: Raising the pond level by 10 feet would create a 110-acre pool. Sandy soils may limit expansion potential.

Remarks: Lake Shore Drive forms the dam the spillway is a corrugated metal half-round riser and metal pipe conduit. The riser is 6 feet in diameter; the conduit is 5 feet. The pond has about one foot or freeboard.

Ownership and Use: The pond is owned by the town of Pembroke and is used for water supply and recreation.

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Existing Site SS-2910 (Reeds Mill Pond)

Location: On Pine Brook at Route 27 in Kingston, Mass.

Hanover, Mass. USGS quadrangle

Latitude: 42°00'50" Longitude: 70°46'14"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
7	10	1,900	2.97

Potential for Expansion: Raising the pond level by 10 feet would create a 110-acre pool.

Remarks: Route 27 forms the dam. Two culverts with flashboards serve as the spillway. Erosion has occurred at the spillway outlets.

Ownership and Use: The pond is owned by Robert Davidson and is not used for a specific purpose.

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Existing Site SS-2911 (Dennetts Pond)

Location: On the Jones River just upstream from Ring Road in Plympton Mass.

Plympton, Mass. USGS quadrangle

Latitude: 41°58'27" Longitude: 70°47'56"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
6	12	1,125	1.76

Potential for Expansion: Expansion would create a large area of shallow water as the pond would expand to a large wetland area.

Remarks: The dam is an earthfill structure with a vertical stone wall on the downstream face. The spillway is a concrete weir with provision for flashboards. The spillway has two bays; one 6.5 feet wide and the other 4.5 feet wide. The dam was leaking in several places.

Ownership and Use: The pond is owned by John Osborn and is used for recreation.

****

Existing Site SS-2912 (Russell Pond)

Location: On Furnace Brook between Elm Street and Indian Pond Road in Kingston, Mass.

Plymouth, Mass. USGS quadrangle

Latitude: 41°58'43" Longitude: 70°44'50"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
10	15	475	0.74

Potential for Expansion: Topography limits any significant increase in surface area.

Remarks: The dam is an earthfill structure. The downstream slope is nearly vertical. The spillway is a concrete weir about 3 feet long and 2 feet deep. There is a fish ladder adjacent to the spillway. Large trees are growing on the dam. Many seepage areas were noted along the downstream toe.

Ownership and Use: The pond is owned by Horace Weston and is not used for a specific purpose.

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Existing Site SS-2913 (Stone Pond)

Location: On an unnamed tributary to Plymouth Bay about 1,200 feet upstream from Route 3A in Plymouth, Mass.

Plymouth, Mass. USGS quadrangle

Latitude: 41°58'29" Longitude: 70°41'32"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
4	10	165	0.26

Potential for Expansion: Topography limits any significant increase in surface area. The small drainage area limits expansion potential. Sandy soils may limit expansion potential.

Remarks: The dam is an earthfill structure. The spillway is a concrete weir inlet about 6 feet long and a 30-inch cast iron conduit. A trash rack on the inlet restricts flow.

Ownership and Use: The pond is owned by the town of Plymouth and is used for recreation.

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Existing Site SS-2914 (Spooner Pond)

Location: On an unnamed tributary to Plymouth Bay at Route 3A in Plymouth, Mass.

Plymouth, Mass.USGS quadrangle

Latitude: 41°58'36" Longitude: 70°41'24"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
6	5	75	0.12

Potential for Expansion: The small drainage area limits expansion potential. The pond is surrounded by streets and buildings which would be affected by expansion of the pond.

Remarks: Route 3-A forms the dam. The spillway is a concrete weir inlet with flashboards and a concrete block conduit. The inlet weir is about 6 feet long The conduit is 4 feet wide and 4 feet deep. Concrete in the spillway is broken in places.

Ownership and Use: The pond is owned by Saltwater Trust and is used for industrial purposes.

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Existing Site SS-2915 (Foundry Pond)

Location: On Smelt Brook about 700 feet upstream from Route 3-A in Kingston, Mass.

Plymouth, Mass. USGS quadrangle

Latitude: 41°59'08" Longitude: 70°42'37"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
6	10	1,000	1.56

Potential for Expansion: Raising the pond level by 20 feet would create a 30-acre pool.

Remarks: The dam is an earthfill structure with a mill building at the downstream face. There is some riprap on the upstream slope. The spillway is a concrete weir and flume with flashboard control.

Ownership and Use: The pond is owned by C. Drew Company and is used for industrial purposes.

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Existing Site SS-2916 (Mill Pond)

Location: On Island Creek at Tremont Street in Duxbury, Mass.

Duxbury, Mass.USGS quadrangle

Latitude: 42°01'00" Longitude: 70°42'40"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
7	10	900	1.41

Potential for Expansion: Raising the pond level by 15 feet would create a 110-acre pool. Tobey Garden Street and 5 houses would be affected. Sandy soils may limit expansion potential.

Remarks: Route 3 A (Tremont Street) forms the dam. The spillway is a 4-foot by 5-foot concrete culvert with flashboard control. The downstream channel is a series of 6-inch high concrete steps which serve as a fish ladder.

Ownership and Use: The pond is owned by the town of Duxbury and is used for fire protection and recreation.

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SS-2908

Upper Chandler Pond

SS-2912

Russell Pond

SS-2909

Lower Chandler Pond

SS-2913

Stone Pond

SS-2911

Dennetts Pond

EXISTING RESERVOIRS
SUBWATERSHED SS-29
JONES RIVER

SS-2914

Spooner Pond

SS-2915

Foundry Pond

SS-2916

Mill Pond

EXISTING RESERVOIRS
SUBWATERSHED SS-29
JONES RIVER

LEGEND

SUBWATERSHED BOUNDARY

DRAINAGE AREA ABOVE STRUCTURE

POTENTIAL SITE SHOWING BENEFICIAL POOL FOR LARGEST STRUCTURE

EXISTING RESERVOIR

EXISTING POND

LOCATION MAP

N

2901
2902
2903
2904
2905
2906
2907
2908
2909
2910
2911
2912
2913
2914
2915
2916

Source - USGS Quad. Sheets
Duxbury - 1961
Honover - 1962
Scituate - 1961
Cohosset - 1961

JONES RIVER (SS-29)

SOUTH SHORE STUDY AREA

MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SOUTH SHORE STUDY AREA
SITE DATA FOR

Subwatershed SS-30, Eel River

This subwatershed covers about 27,700 acres in Kingston and Plymouth, in Plymouth County. There is a U.S. Geological Survey Stream gage on the Eel River in Plymouth.

Major streams in this subwatershed include the Eel River, Town Brook and Beaver Dam Brook. The Eel River originates in Plymouth and flows northeasterly into Plymouth Bay. Town Brook originates in Billington Sea in Plymouth and flows northeasterly into Plymouth Harbor. Beaver Dam Brook also originates in Plymouth and flows northerly to Cape Cod Bay. Elevations range from a high of about 395 feet on Manomet Hill to tidewater in Cape Cod Bay.

Geology in this subwatershed is characterized by granite bedrock overlain by 40 to 80 feet of outwash sand and gravel.

Seven potential reservoir sites and 9 existing reservoirs were studied.

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POTENTIAL SITE SS-3001

Location: On the Eel River at Russell Millpond about 1300 feet upstream from Route 3 in Plymouth, Mass.

Plymouth, Mass. USGS quadrangle

Latitude: 41°55'01" Longitude: 70°31'38"

Facilities Affected:

Facility	Elevation
3 houses	80
5 garages	80
2 houses	75
3 garages	75
2 houses	70
2 garages	70
Gravel road	70
6 houses	65
Garage	65
Utility towers	65
2 houses	60
2 garages	60

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to bedrock in the foundation is estimated to be from 60 to 75 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: Preliminary design information indicates that a concrete monolithic conduit emergency spillway may be needed at this site.

Inflow to the site may be sufficient to maintain a pool in spite of losses through abutments and the foundation.

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POTENTIAL SITE SS-3002

Location: On the Eel River at the pond about 700 feet upstream from Sandwich Road in Plymouth, Mass.

Manomet, Mass. USGS quadrangle

Latitude: 41°55'27" Longitude: 70°37'18"

Facilities Affected:

Facility	Elevation
Route 3	45

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to bedrock in the foundation is estimated to be from 50 to 60 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location. Inflow to the site may be sufficient to maintain a pool in spite of losses through the abutments.

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POTENTIAL SITE SS-3003

Location: On the Eel River about 1400 feet upstream from River Street in Plymouth, Mass.

Manomet, Mass. USGS quadrangle

Latitude: 41°55'58" Longitude: 70°37'07"

Facilities Affected:

Facility	Elevation
2 houses	50
4 houses	45
Doten Road	45
2 houses	40
4 garages	40
2 houses	35
3 garages	35
4 houses	30
2 garages	30
12 houses	25
5 garages	25
Garage	20
Clifford Road	20
Sandwich Road	15

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to bedrock in the foundation is estimated to be from 70 to 80 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments. Pervious borrow material for dam construction was located near the site; impervious material was not located.

POTENTIAL SITE SS-3003 (continued)

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location. Inflow to the site may be sufficient to maintain a pool in spite of losses through the abutments.

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POTENTIAL SITE SS-3004

Location: On an unnamed tributary to the Eel River about 6000 feet upstream from Forge Pond Dam in Plymouth, Mass.

Manomet, Mass. USGS quadrangle

Latitude: 41°54'15" Longitude: 70°36'15"

Facilities Affected:

Facility	Elevation
Beaver Dam Road	100
Garage	95
Sandwich Road	85
House	80

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to bedrock in the foundation is estimated to be from 40 to 50 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location. Inflow to the site may be sufficient to maintain a pool in spite of losses through the abutments.

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POTENTIAL SITE SS-3006

Location: On an unnamed tributary to the Eel River about 1200 feet upstream from Clifford Road in Plymouth, Mass.

Manomet, Mass. USGS quadrangle

Latitude: 41°55'24" Longitude: 70°36'40"

Facilities Affected:

Facility	Elevation
House	60
2 houses	55
2 houses	50
2 garages	50
Doten Road	45
2 garages	40
Garage	35

POTENTIAL SITE SS-3006 (continued)

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to granite bedrock in the foundation is estimated to be from 70 to 80 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location. Inflow to the site may be sufficient to maintain a pool in spite of losses through the abutments and foundation.

****

POTENTIAL SITE SS-3007

Location: On Indian Brook about 1100 feet upstream from Route 3A in Plymouth, Mass.
Manomet, Mass. USGS quadrangle
Latitude: 41°53'11" Longitude: 70°32'31"

Facilities Affected:

Facility	Elevation
3 cottages	50
House	45
Garage	45
7 garages	40
2 water wells	40

Geologic Conditions: Both abutments are fine sand and gravel. Depth to bedrock in the foundation is estimated to be from 50 to 60 feet. Waterholding capabilities appear to be fair. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location. Inflow to the site may be sufficient to maintain a pool in spite of losses through the abutments.

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POTENTIAL SITE SS-3008

Location: On an unnamed tributary to the Eel River, about 3000 feet upstream from the Russell Mill Pond dam in Plymouth, Mass.
Plymouth, Mass. USGS quadrangle
Latitude: 41°55'11" Longitude: 70°32'15"

Facilities Affected:

Facility	Elevation
House	75
Garage	75
Garage	70
House	65
Utility poles	65

Geologic Conditions: Both abutments are poorly graded sand and gravel outwash. Depth to granite bedrock in the foundation is estimated to be from 60 to 75 feet. Waterholding capabilities appear to be fair. Leakage is expected through both abutments. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location.

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SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-SOUTH SHORE — SUBWATERSHED-EEL RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV ++ TYPE (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-SS-3001 DA= 2.34 SQ MI = 1498 AC — USGS QUAD-PLYMOUTH,MASS — LATITUDE 41-55-01 LONGITUDE 70-31-38																
SITE RATING (2)			STREAM WATER QUALITY (B)				100-YR PRIN SPWY DESIGN STORM				RUNOFF = 5.10 IN, PEAK FLOW = 656 CFS					
40.0	0	0.0		9		4.0	57.1 C	518	4.1	2870	61.9	85	69.6	34	71	*****
57.3	500	4.0	3380	56	29980	21.2	57.3 E	519	4.1	3260	65.1	106	74.3	38	95	0.66
63.3	957	7.6	2020	94	20470	27.2	63.3 E	976	7.8	1980	69.6	135	77.1	41	111	1.03
67.6	1415	11.3	1520	121	17730	31.5	67.6 E	1433	11.5	1500	73.0	171	79.5	44	126	1.31
71.0	1872	15.0	1260	148	15890	35.0	71.0 C	1891	15.2	1240	75.1	196	79.1	43	124	1.54
SITE-SS-3002 DA= 2.77 SQ MI = 1773 AC — USGS QUAD-MANOMET,MASS — LATITUDE 41-55-27 LONGITUDE 70-37-18																
SITE RATING (2)			STREAM WATER QUALITY (B)				100-YR PRIN SPWY DESIGN STORM				RUNOFF = 5.10 IN, PEAK FLOW = 651 CFS					
16.9	0	0.0		6		6.8	38.2 E	613	4.1	1920	40.5	58	43.5	34	91	*****
24.9	100	0.7	9930	21	46540	14.8	24.9 T	122	0.8	8130	31.7	38	34.8	25	37	0.18
30.2	251	1.7	5950	35	43100	20.2	40.8 E	760	5.1	1960	43.3	65	46.3	36	114	0.41
37.4	552	3.6	3280	50	36030	27.4	43.9 E	953	6.4	1900	46.3	73	49.3	39	147	0.74
42.5	841	5.6	2370	63	31810	32.5	42.5 T	863	5.8	2310	47.4	76	50.4	40	169	0.98
SITE-SS-3003 DA= 10.24 SQ MI = 6554 AC — USGS QUAD-MONOMET,MASS — LATITUDE 41-55-58 LONGITUDE 70-37-07																
SITE RATING (2)			STREAM WATER QUALITY (B)				100-YR PRIN SPWY DESIGN STORM				RUNOFF = 5.10 IN, PEAK FLOW = 1934 CFS					
8.8	0	0.0		32		4.9	31.2 E	3329	6.1	1010	33.7	335	42.9	39	88	*****
11.3	100	0.2	23540	51	46360	7.3	11.3 T	182	0.3	12940	24.2	189	30.5	26	40	0.21
24.2	1546	2.8	2630	190	21370	20.2	34.8 E	4468	8.2	910	37.3	391	43.4	39	90	2.20
35.0	4438	8.1	1060	355	13300	31.0	41.5 E	7157	13.1	660	43.9	492	49.8	46	125	4.68
42.5	7548	13.7	740	472	11820	38.5	42.5 T	7629	14.0	730	46.7	535	50.0	46	126	6.41

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-SOUTH SHORE — SUBWATERSHED-EEL RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV ++ TYPE (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-SS-3004	DA= 2.41 SQ MI = 1542 AC						USGS QUAD-MANOMET,MASS				LATITUDE 41-54-15		LONGITUDE 70-36-15			
SITE RATING (2)			STREAM WATER QUALITY (B)				100-YR PRIN SPWY DESIGN STORM				RUNOFF = 5.00 IN, PEAK FLOW = 663 CFS					
63.5	0	0.0		10		3.5	79.6 E	533	4.1	1660	82.1	70	85.1	25	24	*****
69.3	100	0.8	9300	25	3647C	9.3	77.8 E	436	3.4	2130	80.1	56	83.1	23	20	0.18
76.6	362	2.8	2970	46	2349C	16.6	81.1 E	622	4.8	1730	83.5	79	86.5	26	27	0.52
84.9	885	6.8	1480	89	1473C	24.9	87.4 E	1148	8.8	1140	89.8	124	92.8	33	44	0.98
91.5	1671	13.0	1100	155	11850	31.5	94.0 E	2129	16.6	860	96.1	246	99.6	40	69	1.45
SITE-SS-3006	DA= 1.43 SQ MI = 915 AC						USGS QUAD-MANOMET,MASS				LATITUDE 41-55-24		LONGITUDE 70-36-40			
SITE RATING (2)			STREAM WATER QUALITY (B)				100-YR PRIN SPWY DESIGN STORM				RUNOFF = 5.10 IN, PEAK FLOW = 417 CFS					
16.6	0	0.0		8		2.5	28.5 E	317	4.1	1800	31.0	48	34.3	20	34	*****
22.5	100	1.2	5900	25	2329C	8.5	25.0 E	184	2.4	3210	27.4	39	30.4	16	23	0.17
30.7	401	5.3	2250	48	1888C	16.7	33.2 E	539	7.1	1670	35.5	59	38.5	25	59	0.48
40.8	1003	13.2	1550	72	21440	26.7	43.3 E	1205	15.7	1290	45.5	87	48.7	35	158	0.87
48.0	1606	21.1	1350	95	2287C	34.0	50.5 E	1866	24.5	1160	53.0	114	57.0	43	289	1.11
51.0	1907	25.0	1260	106	2277C	37.0	53.5 E	2195	28.7	1100	55.6	126	59.5	46	340	1.17
SITE-SS-3007	DA= 4.29 SQ MI = 2746 AC						USGS QUAD-MANOMET,MASS				LATITUDE 41-53-11		LONGITUDE 70-32-31			
SITE RATING (2)			STREAM WATER QUALITY (B)				100-YR PRIN SPWY DESIGN STORM				RUNOFF = 5.00 IN, PEAK FLOW = 1227 CFS					
28.2	0	0.0		14		6.3	37.4 E	950	4.1	1470	39.8	280	43.7	22	20	*****
31.5	100	0.4	14360	60	2391C	9.5	38.0 E	1080	4.6	1330	40.4	300	44.8	23	23	0.20
34.4	388	1.7	3970	138	1119C	12.3	38.9 E	1316	5.8	1170	41.3	330	45.5	24	25	0.62
37.5	965	4.1	1780	222	770C	15.6	40.0 E	1634	7.1	1050	42.5	371	45.9	24	26	1.25
40.8	1830	8.0	1060	314	621C	18.7	43.3 E	2752	12.0	710	45.3	463	49.9	28	45	1.94

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-SOUTH SHORE — SUBWATERSHED-EEL RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-SS-3008 DA= 0.53 SQ MI = 339 AC USGS QUAD-PLYMOUTH LATITUDE 41-55-11 LONGITUDE 70-32-15																
SITE RATING (2)			STREAM WATER QUALITY (B)				100-YR PRIN SPWY DESIGN STORM				RUNOFF = 5.10 IN, PEAK FLOW = 155 CFS					
59.3	0	0.0		4		1.2	66.6 E	117	4.1	3730	69.1	34	72.9	15	22	*****
66.1	100	3.5	5120	25	20470	8.1	68.6 E	176	6.1	2910	70.9	40	73.9	16	25	0.14
67.4	135	4.8	4060	29	18930	9.3	69.9 E	220	7.8	2490	72.0	44	75.0	17	28	0.17
68.6	170	6.0	3400	32	17780	10.6	71.1 E	265	9.3	2170	73.3	48	76.6	19	33	0.18

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

Existing Site SS-3001 (Russell Mill Pond)

Location: On the Eel River about 1,200 feet upstream from Route 3 in Plymouth, Mass.

Plymouth, Mass. USGS quadrangle

Latitude: 41°55'01" Longitude: 70°37'38"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
40	24	1,550	2.42

Potential for Expansion: Please refer to Site Data and Design Summary Table for Potential Site SS-3001.

Remarks: The dam is an earthfill structure. The spillway is a concrete weir and flume with flashboard control. There are several old concrete structures along the dam including a non-functional fish ladder.

Ownership and Use: The pond is owned by Russell Mill Pond Inc. and is used for recreation

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Existing Site SS-3002 (Eel River Pond)

Location: On the Eel River about 1,800 feet downstream from Route 3 in Plymouth, Mass.

Manomet, Mass. USGS quadrangle

Latitude: 41°55'26" Longitude: 70°37'19"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
10	15	1,800	2.81

Potential for Expansion: Please refer to Site Data and Design Summary Table for Potential Site SS-3002.

Remakrs: The dam is an earthfill structure. A portion of the downstream face is a vertical stone wall. The spillway is a 6-foot corrugated metal riser and conduit. The spillway has provision for flashboards. There is also a concrete sluice and fish ladder near the right abutment. Trees and brush are growing on the dam.

Ownership and Use: The pond is owned by the Chilton Trust and is used for recreation and irrigation.

****

Existing Site SS-3009 (Arms House Pond)

Location: On Town Brook at Spring Lane in Plymouth, Mass.

Plymouth, Mass. USGS quadrangle

Latitude: 41°57'12" Longitude: 70°39'56"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
6	12	2,100	3.28

Potential For Expansion: Limited. The pond is located in Plymouth Center.

Remarks: Spring Lane forms the dam. The downstream face is a vertical masonry wall. The spillway is a concrete structure with flashboards. There is also a fish ladder which outlets to the left of a rustic grist mill.

Ownership and Use: The pond is owned by the town of Plymouth and is not used for a specific purpose.

****

Existing Site SS-3011

Location: On an unnamed tributary to the Eel River at Clifford Road in Plymouth, Mass.

Manomet, Mass.USGS quadrangle

Latitude 41°55'33" Longitude: 70°36'50"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
8	10	4,050	6.33

Potential for Expansion: Raising the pond level by 10 feet would create a 50-acre pool. Further expansion would affect Sandwich Road and new houses.

Remarks: Clifford Road forms the dam. The downstream face adjacent to the spillway is a vertical stone wall. The spillway is a concrete weir with flashboards which outlet through a concrete bridge opening.

Ownership and Use: The pond is owned by Sherman Whipple Trust and is not used for a specific purpose.

****

Existing Site SS-3012 (Forge Pond)

Location: On an unnamed tributary to the Eel River about 1,400 feet upstream from Sandwich Road in Plymouth, Mass.

Manomet, Mass. USGS quadrangle

Latitude: 41°55'10" Longitude: 70°36'40"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
11	12	3,000	4.69

Potential for Expansion: Raising the pond level by 25 feet would create a 120-acre pool. Cranberry bogs would be affected. Sandy soils may limit expansion potential.

Remarks: The dam is an earthfill structure. The spillway a two bay concrete structure with flashboards. Trees and brush are growing on the dam.

Ownership and Use: The pond is owned by Dorothy Illig and is used for irrigation and aesthetics.

****

Existing Site SS-3013 (The Arm Pond)

Location: On an unnamed tributary to Beaver Dam Brook between Beaver Dam Road and Bartlett Road in Plymouth, Mass.

Manomet, Mass.USGS quadrangle

Latitude: 41°54'07" Longitude:70°33'57"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
7	13	35	0.05

Potential for Expansion: The small drainage area limits expansion potential.

Remarks: The dam is an earthfill structure constructed of clean sand. The spillway is a 5-foot diameter, steel half-round riser and conduit. Some seepage was noted along the downstream toe.

Ownership and Use: The pond is owned by United Cape Cod Cranberry Corporation and is used for cranberry bog irrigation.

****

Existing Site SS-3014 (Beaver Dam Pond)

Location: On Beaver Dam Brook about 7,500 feet upstream from Route 3A in Plymouth, Mass.

Manomet, Mass. USGS quadrangle

Latitude: 41°54'03" Longitude: 70°34'16"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
30	14	130	0.20

Potential for Expansion: The small drainage area limits expansion potential.

Remarks: The dam is an earthfill structure with some riprap on the upstream face. The principal spillway is a concrete drop structure with provision for flashboards. There is also a similar smaller structure which outlets to a by-pass channel. Trees are growing on the dam.

Ownership and Use: The pond is owned by United Cape Cod Cranberry Corporation and is used for cranberry bog irrigation.

****

Existing Site SS-3015 (Indian Brook Pond)

Location: On Indian Brook at Route 3-A in Plymouth, Mass.

Manomet, Mass. USGS quadrangle

Latitude: 41°53'15" Longitude: 70°32'31"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
9	8	3,000	4.69

Potential for Expansion: Limited. Many dikes would be required. Several businesses would be affected.

Remarks: The dam is formed by a short section of road fill. The spillway is composed of four 24-inch metal culverts with a timber riser and 3 bays of flashboards. Dam and spillway are in good condition.

Ownership and Use: The pond is owned by George Briggs and is not used for a specific purpose.

****

Existing Site SS-3016 (Briggs Reservoir)

Location: On Indian Brook between Sandwich Road and Ship Pond Road in Plymouth, Mass.

Manomet and Sagamore, Mass. USGS quadrangles

Latitude: 41°52'31" Longitude: 70°33'37"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
25	12	425	0.66

Potential for Expansion: Sandy soils may limit expansion potential.

Remarks: The dam is an earthfill structure. The principal spillway is a 3-bay concrete drop structure with provision for flashboards. The spillway is in good condition except for the concrete cap which is deteriorating. A secondary spillway delivers water to a canal.

Ownership and Use: The reservoir is owned by George Briggs and is used for irrigation.

****

SS-3001

Russell Mill Pond

SS-3009

Arms House Pond

SS-3002

SS-3011

EXISTING RESERVOIRS
SUBWATERSHED SS-30
EEL RIVER

SS-3012
Forge Pond

SS-3015
Indian Brook Pond

SS-3013
The Arm Pond

SS-3016
Briggs Reservoir

SS-3014
Beaver Dam Pond

EXISTING RESERVOIRS
SUBWATERSHED SS-30
EEL RIVER

LEGEND

SUBWATERSHED BOUNDARY

DRAINAGE AREA ABOVE STRUCTURE

POTENTIAL SITE SHOWING BENEFICIAL POOL FOR LARGEST STRUCTURE

EXISTING RESERVOIR

EXISTING POND

EEL RIVER (SS-30)

SOUTH SHORE STUDY AREA

MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

3009
3011
3012
3008
3006
3002
3003
3004
3014
3013
3015
3007
3016
3001

Source- USGS Quad. Sheets
Plymouth- 1962
Manomet- 1962
Sagamore- 1967

USDA-SCS-HYATTSVILLE, MD. 1974

South Shore Study Area

Site Data For
Subwatershed SS-31 Cape Cod Canal

This subwatershed covers about 10,700 acres in Plymouth in Plymouth County and Bourne and Sandwich in Barnstable County.

The major stream in the subwatershed is Herring River which originates in Plymouth and flows south through two Great Ponds to the Cape Cod Canal in Bourne.

Three existing reservoirs were studied.

****

Existing Site SS-3101 (Little Herring Pond)

Location: On the Herring River west of Long Pond Road in Plymouth, Mass.

Sagamore, Mass. USGS quadrangle

Latitude: 41°49'08" Longitude: 70°34'23"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
83	4	250	0.39

Potential for Expansion: Sandy soils may limit expansion potential. The small drainage area limits expansion.

Remarks: The dam is an earthfill structure. The spillway is an open concrete flume with no means of controlling the water level. Top width of the dam is about 3 feet. Concrete in the spillway has some deterioration.

Ownership and Use: The pond is an enhanced Great Pond and is used for irrigation and recreation.

****

Existing Site SS-3102 (Great Herring Pond)

Location: On the Herring River at the Bourne-Plymouth town line in Plymouth, Mass.

Sagamore, Mass. USGS quadrangle

Latitude: 41°47'11" Longitude: 70°33'55"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
410	4	1,385	2.16

Potential for Expansion: Sandy soils may limit expansion potential. The pond is already quite large in relation to the drainage area.

Remarks: The dam is an earthfill structure. The spillway is a concrete weir with flashboard control. Trees are growing on the dam. Concrete in the spillway has spalled.

Ownership and Use: The pond is an enhanced Great Pond and is used for irrigation and recreation.

****

Existing Site SS-3103 (Foundry Pond)

Location: On the Herring River about 200-feet upstream from Route 6E in Bourne, Mass.

Sagamore, Mass. USGS quadrangle

Latitude: 41°46'24" Longitude: 70°33'47"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
6	8	1,625	2.54

Potential for Expansion: Limited by streets, houses, and Great Herring Pond located upstream.

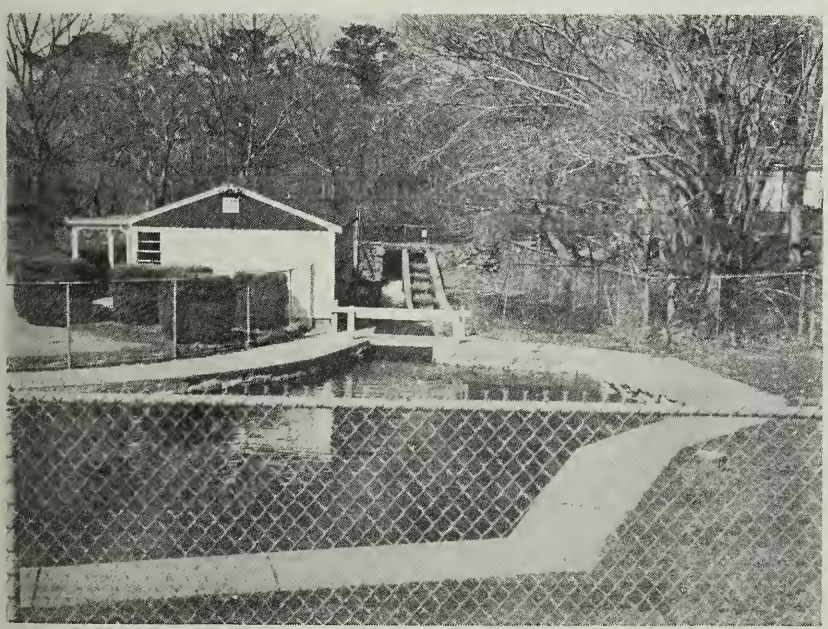
Remarks: The dam is an earthfill structure. The downstream face is a vertical stone wall. The spillway consists of two concrete bays with flashboard control. Each bay is about 3 feet wide. The left bay of the spillway is a concrete fish ladder. The downstream channel has concrete and masonry sidewalls to the Cape Cod Canal.

Ownership and Use: Ownership of the pond was not determined. The pond is used for recreation.

****

SS-3101
Little Herring Pond

SS-3102
Great Herring Pond



SS-3103
Foundary Pond

EXISTING RESERVOIRS
SUBWATERSHED SS-31
CAPE COD CANAL

LEGEND

SUBWATERSHED BDUNDARY

EXISTING POND

EXISTING RESERVDIR

CAPE COD CANAL (SS-31)

SDUTH SHDRE STUDY AREA

MASSACHUSETTS

EXISTING AND PDTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

CAPE COD STUDY AREA
SITE DATA FOR

Subwatershed CC-32, North Shore-Cape

The subwatershed covers about 35,700 acres in Barnstable, Bourne, Dennis, Sandwich, and Yarmouth in Barnstable County.

The area contains a number of small streams which originate in the central portion of Cape Cod and flow north to Cape Cod Bay.

Geology of the subwatershed is characterized by shale bedrock overlain by about 150 feet of outwash sand and gravel.

Four existing reservoirs were studied. No potential reservoir sites which met study criteria were located.

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Site CC-3201(Upper Shawme Lake)

Location: On Mill Creek about 2600 feet upstream from Route 130 in Sandwich, Mass.

Pocasset, Mass. USGS quadrangle

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
20	10	250	0.4

Potential for Expansion: The surface area could be nearly tripled without affecting any major facilities. The sandy soils may limit expansion potential. The small drainage area also limits expansion.

Remarks: The dam is an earthfill structure with a vertical stone downstream face. The spillway is a timber flume with flashboard control. The outlet channel is riprapped to Shawme Lake. Large trees are growing at the downstream toe and small pine trees are growing along the top of the dam.

Ownership and Use: The lake is owned by Peter Cook and is used for recreation.

****

Site CC-3202(Shawme Lake)

Location: On Mill Creek about 50 feet upstream from Route 130 in Sandwich, Mass.

Sagamore, Mass. USGS quadrangle

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
25	6	450	0.7

Potential for Expansion: Limited. Raising the water level by 4 feet would affect a cemetery and several houses. Surface area would not be appreciably increased. Sandy soils may limit expansion potential. Site CC-3201 is located immediately upstream.

Remarks: The dam is an earthfill structure with a vertical masonry upstream face. The principal spillway is a concrete weir with flashboard control. The weir is about 8 feet wide. There is also an auxiliay spillway to an old mill waterwheel. A concrete fish ladder is located to the right of the principal spillway. Large trees are growing on the dam. There is about 2 feet of freeboard between the lake level and top of dam. All concrete and masonry in the structure is in good condition.

Ownership and Use: The lake is owned by the Town of Sandwich and is used for recreation.

****

Site CC-3203

Location: On a tributary to Cape Cod Bay between the Penn-Central railroad and Route 6A in Sandwich, Mass.

Sandwich, Mass. USGS quadrangle

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
5	10	150	0.2

Potential for Expansion: Limited. The small drainage area limits expansion. Route 6A would be affected by expansion. Sandy soils may limit expansion potential.

Remarks: The railroad embankment forms the dam. The spillway is a sheet-steel riser with flashboard control and pipe conduit. Weir length on the riser is about 4 feet.

Ownership and Use: The pond is owned by the Commonwealth of Massachusetts and is used for irrigation water.

****

Site CC-3204(Nye Pond)

Location: On an unnamed tributary to Scorton Creek at Old County Road in Sandwich, Mass.

Sandwich, Mass. USGS quadrangle

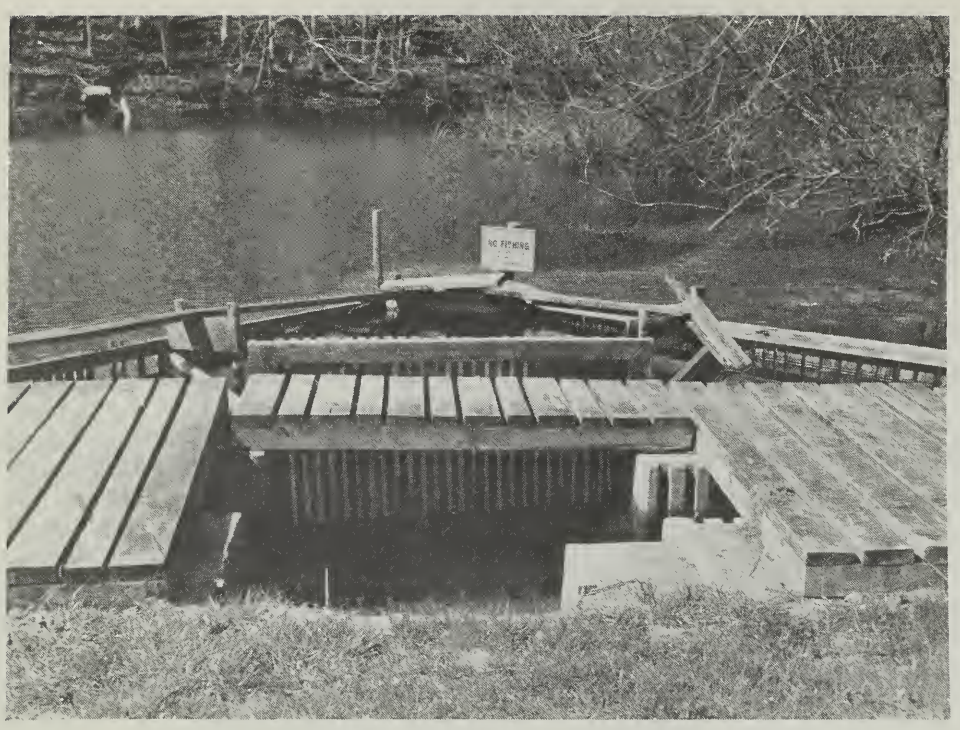
Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
6	10	100	0.16

Potential for Expansion: The surface area could be nearly tripled without affecting major facilities. The small drainage limits expansion potential. Sandy soils may limit expansion potential.

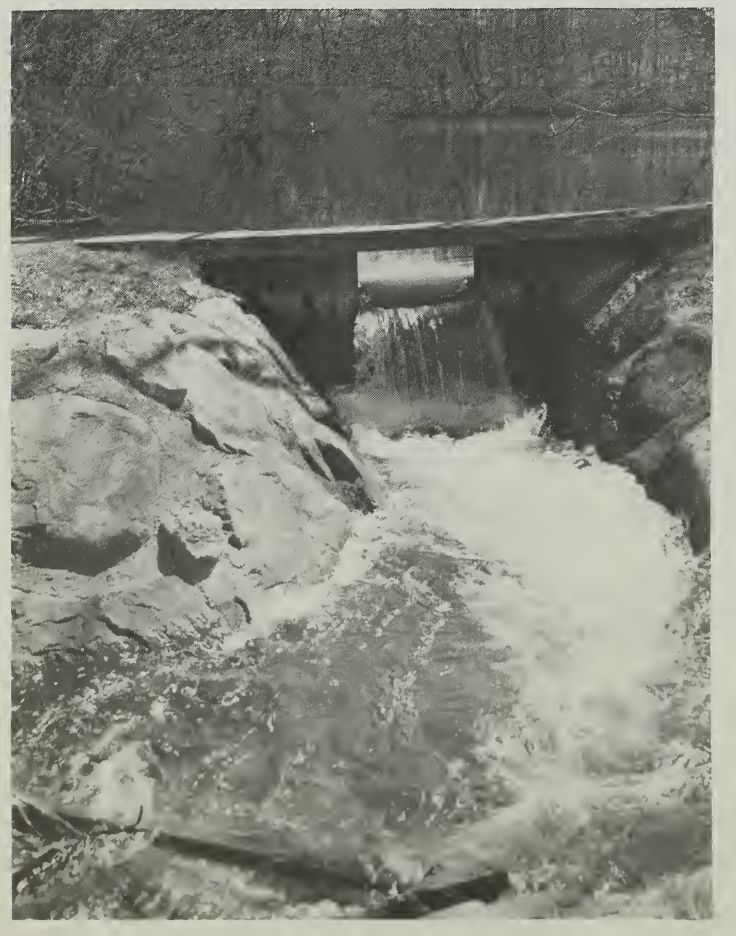
Remarks: Old County Road forms the dam. The upstream face of the dam is a vertical granite-block wall. The spillway is a concrete pipe with flashboard control. Immediately upstream from the spillway inlet is a series of timber trash racks. There is also an auxiliary pipe spillway to deliver water to downstream trout pools. The dam and spillways are in good condition.

Ownership and Use: The pond is owned by the Mass. Division of Fisheries and Game and is used in connection with a fish rearing station.

****



Existing Site CC-3201 (Upper Shawme Lake)



Existing Site CC-3204 (Nye Pond)

Source - USGS Quad. Sheets
Hyannis - 1961
Sandwich - 1957
Sagamore - 1951
Pocasset - 1967

NORTH SHORE - CAPE (CC-32)

CAPE COD STUDY AREA

MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
(SHEET 1 OF 2)

LEGEND

SUBWATERSHED BOUNDARY

THERE WERE NO EXISTING OR POTENTIAL RESERVOIR SITES WHICH MET STUDY CRITERIA LOCATED IN THIS PORTION OF THE SUBWATERSHED.

Source - USGS Quad. Sheets
Dennis - 1961
Hyannis - 1961
Sandwich - 1957

(SHEET 2 OF 21)

NORTH SHORE - CAPE (CC-32)

CAPE COD STUDY AREA

MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

CAPE COD STUDY AREA
SITE DATA FOR

Subwatershed CC-33, North Shore-Cape

The subwatershed covers about 14,900 acres in Brewster, Dennis, Harwich, and Orleans in Barnstable County.

The area contains a number of small streams which originate in the central portion of Cape Cod and flow north to Cape Cod Bay.

Geology of the subwatershed is characterized by shale bedrock overlain by about 150 feet of outwash sand and gravel.

One existing reservoir was studied. No potential reservoir sites which met study criteria were located.

****

Site CC-3301(Lower Mill Pond)

Location: On Stony Brook about 100 feet upstream from Stony Brook Road in Brewster, Mass.

Harwich, Mass. USGS quadrangle

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
40	4	1,600	2.5

Potential for Expansion: Limited. The much larger Upper Millpond is located immediately upstream. Sandy soils limit expansion potential.

Remarks: The dam is an earthfill structure. A masonry wall has been built to a height two feet above the earth fill. There are two spillways through the masonry wall. Each spillway is a weir with flashboards; one weir is four feet wide, the other is two feet wide. The dam and spillways are in good condition. The channel downstream of the dam is a series of steps which serve as a fish ladder for herring.

Ownership and Use: The pond is owned by the town of Brewster and is used for recreation.

****

Existing Site CC-3301 (Lower Mill Pond)

****

CAPE COD STUDY AREA
SITE DATA FOR

Subwatershed CC-34, Cape Cod

The subwatershed covers about 13,300 acres in Eastham, Orleans, and Wellfleet in Barnstable County.

No potential or existing reservoir sites which met inventory criteria were located.

****

LEGEND

SUBWATERSHED BOUNDARY

EXISTING POND OR RESERVOIR

3301

N

Source - USGS Quad. Sheets
Dennis - 1962
Orleans - 1962
Harwich - 1961

NORTH SHORE - CAPE (CC-33)

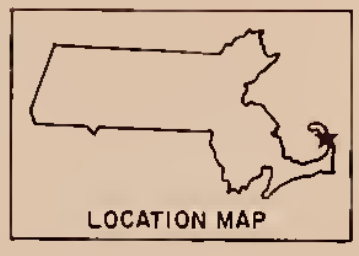
CAPE COD STUDY AREA

MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE



LEGEND

SUBWATERSHED BOUNDARY

THERE WERE NO EXISTING OR POTENTIAL RESERVOIR SITES WHICH MET STUDY CRITERIA LOCATED IN THIS PORTION OF THE SUBWATERSHED.

SOURCE – U.S.G.S. QUAD. SHEETS
WELLFLEET – 1958
ORLEANS – 1962

CAPE COD (CC-34)

CAPE COD STUDY AREA

MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

CAPE COD STUDY AREA
SITE DATA FOR

Subwatershed CC-35, Cape Cod

This subwatershed covers about 15,800 acres in the towns of Eastham, Truro and Wellfleet, in Barnstable County.

The major stream in this subwatershed is the Herring River which originates in Wellfleet and flows generally southwesterly into Wellfleet Harbor, a tidal inlet of Cape Cod Bay. Elevations range from a high of about 170 feet in Truro to tidewater in Wellfleet Harbor.

Geology in this subwatershed is characterized by shale bedrock overlain by about 150 feet of outwash sand and gravel. One potential reservoir site was studied. There were no existing reservoirs which met study criteria.

****

POTENTIAL SITE CC-3501

Location: On Fresh Brook about 300 feet upstream from GAR Highway, Route 6, in Wellfleet, Mass.

Wellfleet, Mass. USGS quadrangle

Latitude: 41°53'23" Longitude: 69°59'14"

Facilities Affected:

Facility	Elevation
House	25

Geologic Conditions: Both abutments are outwash sand with thin gravel lenses. Depth to shale bedrock in the foundation is estimated to be about 400 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The downstream slope of the dam would be subject to tidal effects. Preliminary design information indicates that a concrete monolithic conduit emergency-spillway may be needed at this site.

****

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-CAPE COD — SUBWATERSHED CAPE CODE

BENEFICIAL POOL							EMERGENCY SPILLWAY					DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	TYPE	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-CC-3501 DA= 0.69 SQ MI = 442 AC USGS QUAD-WELLFLEET,MASS. LATITUDE 41-53-23 LONGITUDE 69-59-14																	
SITE RATING (3) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 5.00 IN, PEAK FLOW = 197 CFS																	
7.3	0	0.0		5		1.4	15.6	E	153	4.1	2440	18.1	33	26.7	21	26	*****
13.7	100	2.7	4310	24	18330	7.6	13.7	E	106	2.9	4080	18.4	33	26.5	20	25	0.14
17.5	202	5.5	2520	31	16190	11.5	17.5	E	207	5.6	2450	21.6	42	28.7	23	32	0.24
20.4	303	8.2	1920	38	15230	14.3	20.4	E	309	8.3	1880	23.2	49	29.7	24	36	0.32
22.5	393	10.7	1720	46	14670	16.5	22.5	C	398	10.8	1690	25.0	55	27.2	21	27	0.37

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.
** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

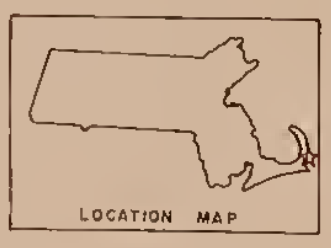
LEGEND

— — — SUBWATERSHED BOUNDARY

DRAINAGE AREA
ABOVE STRUCTURE

POTENTIAL SITE SHOWING
BENEFICIAL POOL FOR
LARGEST STRUCTURE

EXISTING POND
OR RESERVOIR



Source – USGS Quad. Sheets
Wellfleet – 1958

CAPE COD (CC-35)

CAPE COD STUDY AREA

MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

CAPE COD STUDY AREA
SITE DATA FOR

Subwatershed CC-36, Cape Cod

The subwatershed covers about 17,400 acres in Provincetown and Truro in Barnstable County.

No potential or existing reservoir sites which met inventory criteria were located.

****

CAPE COD STUDY AREA
SITE DATA FOR

Subwatershed CC-37, South Shore-Cape

The subwatershed covers about 26,400 acres in Brewster, Chatham, Harwich, and Orleans in Barnstable, Mass.

No potential or existing reservoir sites which met inventory criteria were located.

****

LEGEND

SUBWATERSHED BOUNDARY
THERE WERE NO POTENTIAL OR EXISTING RESERVOIR SITES WHICH MET STUDY CRITERIA LOCATED WITHIN THIS SUBWATERSHED.

Source - USGS Quod. Sheets
Wellfleet - 1958
North Truro - 1958
Provincetown - 1958

CAPE COD (CC-36)

CAPE COD STUDY AREA
MASSACHUSETTS
EXISTING AND POTENTIAL RESERVOIR SITES
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

LEGEND

SUBWATERSHED BOUNDARY
THERE WERE NO POTENTIAL OR EXISTING RESERVOIR SITES WHICH MET STUDY CRITERIA LOCATED WITHIN THIS SUB-WATERSHED.

Source- USGS Quad. Sheets
Orleans - 1962
Harwich - 1961
Chatham - 1961

SOUTH SHORE - CAPE (CC-37)
CAPE COD STUDY AREA
MASSACHUSETTS
EXISTING AND POTENTIAL RESERVOIR SITES
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

CAPE COD STUDY AREA
SITE DATA FOR
Subwatershed CC-38, South Shore-Cape

This subwatershed covers about 44,700 acres in the towns of Barnstable, Brewster, Chatham, Dennis, Harwich and Yarmouth, in Barnstable County. There is a U.S. Geological Survey gaging station on the Herring River in Harwich.

All of the streams in this subwatershed flow into Nantucket Sound. The major stream is the Bass River which originates in Yarmouth and flows southeasterly, then southwesterly along the Dennis-Yarmouth town boundary. Other streams include: Herring River which originates in Harwich and flows generally southwesterly; Swan Pond River which originates in Dennis and flows southwesterly; and Parkers River which originates in Yarmouth and flows southerly. Elevations range from a high of about 150 feet in Dennis to tidewater in Nantucket Sound.

Geology in the subwatershed is characterized by Shale bedrock overlain by about 150 feet of outwash sand and gravel.

One potential reservoir site and one existing reservoir were studied.

****

POTENTIAL SITE CC-3801

Location: On Mill Creek about 2400 feet upstream from Route 28 in Yarmouth, Mass.

Hyannis, Mass. USGS quadrangle

Latitude: 41°39'50" Longitude: 70°15'44"

Facilities Affected:	Facility	Elevation
	24 houses	25

Geologic Conditions: Both abutments are outwash sand and gravel with some thin silt lenses. Depth to shale bedrock in the foundation is estimated to be about 150 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: Preliminary design information indicates that a concrete drop structure emergency spillway may be needed at this site.

****

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-CAPE COD SUBWATERSHED SOUTH SHORE-CAPE COD

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV +TYPE (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-CC-3801 DA= 2.36 SQ MI = 1510 AC USGS QUAD-HYANNIS,MASS LATITUDE 41-39-50 LONGITUDE 70-15-44																
SITE RATING (3) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 5.00 IN, PEAK FLOW = 505 CFS																
15.3	0	0.0		10		3.4	24.6 D	522	4.1	3720	26.0	190	29.4	17	44	*****
20.4	100	0.8	18390	35	52240	8.3	20.4 D	119	0.8	15470	24.9	161	29.0	17	40	0.18
21.7	176	1.4	11820	73	28470	9.7	21.7 D	195	1.5	10670	25.7	184	29.7	18	47	0.30
22.5	239	1.9	8980	94	22840	10.5	22.5 D	258	2.0	8320	25.7	187	29.4	17	44	0.37

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

Site CC-3802(Mill Pond)

Location: On Mill Creek about 100 feet upstream from Route 28 in Yarmouth, Mass.

Hyannis, Mass. USGS quadrangle

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
10	6	2,350	3.7

Potential for Expansion: Sandy soils limit expansion potential.

Remarks: The dam is an earthfill structure. The spillway is a concrete weir with flashboard control which discharges through a box culvert to a concrete fish ladder. Concrete in the spillway is spalling in some areas. The dam is in good condition.

Ownership and Use: Ownership was not determined. The pond is used for fishing.

****

Existing Site CC-3802 (Mill Pond)

LEGEND

- SUBWATERSHED BOUNDARY
- DRAINAGE AREA ABOVE STRUCTURE
- POTENTIAL SITE SHOWING BENEFICIAL POOL FOR LARGEST STRUCTURE
- EXISTING POND OR RESERVOIR

LOCATION MAP

3802

3801

Source - USGS Quad. Sheets
Dennis - 1961
Harwich - 1961
Hyannis - 1961

SOUTH SHORE - CAPE (CC-38)

CAPE COD STUDY AREA
MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

CAPE COD STUDY AREA
SITE DATA FOR

Subwatershed CC-39, South Shore-Cape

This subwatershed covers about 22,200 acres in the towns of Barnstable, Mashpee and Sandwich, in Barnstable County.

All of the major streams in this subwatershed flow generally southerly into Nantucket Sound. The Mashpee River originates in Wakeby Pond in Sandwich and flows through Mashpee. The Santuit River originates in Santuit Pond in Mashpee and forms the Mashpee-Barnstable town boundary south of the village of Santuit. Marstons Mills River originates in Mystic Lake in Barnstable and flows into North Bay, a tidal inlet of Nantucket Sound. The Centerville River originates in Wequaquet Lake in Barnstable and flows into East Bay, also a tidal inlet of Nantucket Sound. Elevations range from a high of about 230 feet in Barnstable to tidewater in Nantucket Sound.

Geology in the subwatershed is characterized by shale bedrock overlain by about 150 feet of outwash sand and gravel.

Three potential reservoir sites and 3 existing reservoirs were studied.

****

POTENTIAL SITE CC-3901

Location: On the Santuit River about 1300 feet upstream from Quinaquisset Avenue in Mashpee and Barnstable, Mass. The town line bisects the pool area.

Cotuit, Mass. USGS quadrangle

Latitude: 41°37'12" Longitude: 70°27'01"

Facilities Affected:

Facility	Elevation
Barn	40
House	35
House	25
Barn	25
House	20
Barn	20
Old Mill Road	15

Geologic Conditions: Both abutments are outwash sand and gravel. Depth to shale bedrock in the foundation is estimated to be about 150 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and possibly through the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location. Inflow to the site may be sufficient to maintain a pool in spite of losses through the abutments and foundation.

****

POTENTIAL SITE CC-3902

Location: On Mashpee River about 500 feet upstream from Route 28 in Mashpee, Mass.

Cotuit, Mass. USGS quadrangle

Latitude: 41°37'23" Longitude: 70°28'55"

Facilities Affected:

Facility	Elevation
Wagnoit Road	50
Meetinghouse Road	50

Geologic Conditions: Both abutments are outwash sand and gravel with some thin silt beds. Depth to shale bedrock in the foundation is estimated to be about 150 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and possibly through the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location. Inflow to the site may be sufficient to maintain a pool in spite of losses through the abutments and foundation. The downstream slope of the dam would be subject to tidal effects.

****

POTENTIAL SITE CC-3903

Location: On an unnamed tributary to the Bumps River at Lumbert Pond about 50 feet upstream from Lumbert Mill Road in Barnstable, Mass.

Cotuit, Mass. USGS quadrangle

Latitude: 41°39'27" Longitude: 70°22'39"

Facilities Affected:

Facility	Elevation
Nye Road	35
Road	35
Utility poles	35
Shed	30

Geologic Conditions: Both abutments are outwash sand and gravel. Depth to shale bedrock in the foundation is estimated to be about 150 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location.

****

Site CC-3904(Santuit Pond)

Location: On Santuit River about 3200 feet upstream from Route 130 in Mashpee, Mass.

Cotuit, Mass. USGS quadrangle

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
175	7	800	1.3

Potential for Expansion: Raising the pond level 10 feet would affect several cranberry bogs. Sandy soils limit expansion potential. The small drainage area limits expansion.

Remarks: The dam is an earthfill structure. The spillway is a timber flume with flashboard control. The flume is about 6 feet wide and has a wooden fish ladder on one side. There is about 3 feet of freeboard between the pond level and top of dam. Trees are growing on the dam. Santuit Pond is a groundwater pond with water level manipulated by flashboards.

Ownership and Use: The pond is an enlarged Great Pond which is used for recreation.

****

Site CC-3905(Mill Pond)

Location: On the Mills River at Route 149 in Barnstable, Mass.

Cotuit, Mass. USGS quadrangle

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
10	8	1,750	2.7

Potential for Expansion: Topography limits any significant increase in surface area. Sandy soils may limit expansion potential.

Remarks: Route 149 forms the dam. The spillway is a 50-foot long weir. Flow passes under Route 149 in a concrete pipe. There is also a stone fish ladder. The dam and spillway are in good condition.

Ownership and Use: The pond is owned by the Town of Barnstable and is used for recreation.

****

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-CAPE COD — SUBWATERSHED SOUTH SHORE-CAPE COD

BENEFICIAL POOL							EMERGENCY SPILLWAY					DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	TYPE	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-CC-3901 DA= 2.57 SQ MI = 1645 AC USGS QUAD-COTUIT,MASS. LATITUDE 41-37-12 LONGITUDE 70-27-01																	
SITE RATING (3) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 5.00 IN, PEAK FLOW = 288 CFS																	
2.8	0	0.0		12		2.8	16.7	569	4.1	980	E	19.0	63	22.0	22	15	*****
7.3	100	0.7	4780	32	14870	7.3	9.8	212	1.5	2250	E	12.1	49	15.1	15	6	0.18
14.3	414	3.0	1450	53	11220	14.3	16.9	575	4.1	1040	E	19.2	64	22.2	22	15	0.58
24.2	1042	7.6	800	73	11340	24.2	26.7	1252	9.1	660	E	29.0	83	32.0	32	40	1.12
31.9	1669	12.2	730	94	12890	31.9	34.4	1937	14.1	630	E	36.7	118	39.7	40	77	1.50
32.5	1727	12.6	720	97	12780	32.5	35.0	2004	14.6	620	E	37.3	121	40.0	40	79	1.51
SITE-CC-3902 DA= 4.27 SQ MI = 2733 AC USGS QUAD-COTUIT,MASS LATITUDE 41-37-23 LONGITUDE 70-28-55																	
SITE RATING (3) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 5.00 IN, PEAK FLOW = 396 CFS																	
14.8	0	0.0		8		10.8	44.0	945	4.1	1100	E	46.4	109	49.4	45	55	*****
23.2	100	0.4	6930	17	41540	19.2	25.7	179	0.8	3860	E	28.0	22	31.0	27	12	0.20
30.4	251	1.1	3170	26	30800	26.4	32.9	358	1.6	2220	E	35.3	39	38.3	34	22	0.45
38.5	552	2.4	1830	48	20970	34.5	41.0	722	3.2	1400	E	43.4	83	46.4	42	42	0.82
42.5	788	3.5	1580	75	16740	38.5	45.0	1038	4.6	1200	E	47.3	117	50.0	46	58	1.08
SITE-CC-3903 DA= 1.15 SQ MI = 736 AC USGS QUAD-COTUIT,MASS LATITUDE 41-39-27 LONGITUDE 70-22-39																	
SITE RATING (3) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 5.00 IN, PEAK FLOW = 284 CFS																	
22.2	0	0.0		7		2.2	31.7	255	4.1	2880	E	34.0	66	39.0	19	27	*****
27.9	100	1.6	6770	29	23220	7.8	30.4	196	3.2	3450	E	32.8	57	35.8	16	14	0.16
29.7	158	2.5	4890	36	21250	9.7	32.2	277	4.5	2780	E	34.5	69	37.5	18	20	0.23
31.0	216	3.5	3980	45	19150	11.0	33.5	357	5.8	2400	E	35.9	78	38.9	19	26	0.29
32.3	273	4.5	3410	53	17520	12.3	34.8	439	7.1	2120	E	36.9	85	39.9	20	32	0.35
32.5	287	4.6	3280	55	17170	12.5	35.0	456	7.3	2070	E	36.9	85	39.9	20	32	0.36

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

Site CC-3906(Lumbert Pond)

Location: On an unnamed tributary to the Bumps River at Lumbert Mill Road in Barnstable, Mass.

Cotuit, Mass. USGS quadrangle

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
10	8	750	1.2

Potential for Expansion: Raising the pond level 10 feet would affect a cranberry bog. Sandy soils limit expansion potential.

Remarks: Lumbert Mill Road forms the dam. The spillway is a concrete weir with flashboard control. The weir is about 4 feet long. The conduit under the road is two corrugated metal pipes. There is also a small outlet on the left abutment which is clogged with debris.

Ownership and Use: Ownership of the pond was not determined. The pond is for fishing.

****

Existing Site CC-3904 (Santuit Pond)

Existing Site CC-3905 (Mill Pond)

LEGEND

WATERSHED BOUNDARY

DRAINAGE AREA ABOVE STRUCTURE

POTENTIAL SITE SHOWING BENEFICIAL POOL FOR LARGEST STRUCTURE

EXISTING POND OR RESERVOIR

3901

3902

3903

3904

3905

3906

Source - USGS Quad Sheets
Catuit - 1961
Hyannis - 1961
Pocasset - 1967
Sandwich - 1957

SOUTH SHORE - CAPE (CC-39)

CAPE COD STUDY AREA
MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

CAPE COD STUDY AREA
SITE DATA FOR

Subwatershed CC-40, South Shore-Cape

The subwatershed covers about 64,100 acres in Bourne, Falmouth, Mashpee, and Sandwich in Barnstable County.

The major streams include the Coonamessett River and the Childs River. The Coonamessett originates in the northern portion of Falmouth and flows south to Vineyard Sound. The Childs River originates in Mashpee and also flows south to Vineyard Sound. Elevations range from a high of about 275 feet in Bourne to sea level.

Geology of the subwatershed is characterized by shale bedrock overlain by about 150 feet of outwash sand and gravel.

Four existing reservoirs were studied.

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Site CC-4001(Mill Pond)

Location: On Pocasset River about 250 feet downstream from County Road in Bourne, Mass.

Pocasset, Mass. USGS quadrangle

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
2	8	400	0.6

Potential for Expansion: Raising the existing pond level about 10 feet would affect County Road and 5 houses. Surface area would be about 25 acres. Sandy soils limit expansion potential.

Remarks: The dam is an earthfill structure. The downstream face is a vertical stone wall. The principal spillway is a concrete weir about 2 feet long with flashboard control. There is also a small spillway which also acts as a fish ladder. There is about one foot of freeboard between the pond level and top of dam. It appears that the dam had recently washed out. Repairs have been made to the downstream end of the principal spillway and trees and brush have been removed from the dam.

Ownership and Use: The pond is owned by John Tracy and is used for recreation.

****

Site CC-4002(Red Brook Pond)

Location: On Red Brook at Shore Road in Bourne, Mass.

Pocasset, Mass. USGS quadrangle

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
17	10	200	0.3

Potential for Expansion: The small drainage area and sandy soils limit expansion potential.

Remarks: Shore Road forms the dam. The spillway is a concrete box culvert. The downstream end of the spillway has provision for flashboards. There is a concrete fish ladder to the right of the principal spillway. Flow from the principal spillway reaches a tidal pool by means of a concrete chute. Seepage was noted at the downstream toe of the roadfill. Concrete in the spillways is in good condition.

Ownership and Use: The pond is owned by the town of Bourne and is used for recreation.

****

Site CC-4003(Flax Pond)

Location: On an unnamed tributary to the Coonamessett River in Falmouth, Mass.

Falmouth, Mass. USGS quadrangle

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
19	5	100	0.16

Potential for Expansion: The small drainage area and sandy soils limit expansion potential.

Remarks: The dam is an earthfill structure constructed of sandy materials. The spillway is a concrete chute about 5 feet wide and four feet deep. The pond is a dammed "kettle-hole". Trees and brush are growing on the upstream slope of the dam.

Ownership and Use: The pond is owned by the Town of Falmouth and is used to store water for cranberry bog irrigation.

****

Site CC-4004(Mill Pond)

Location: On the tributary to Green Pond at Route 28 in Falmouth, Mass.

Falmouth, Mass. USGS quadrangle

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
13	8	550	0.86

Potential for Expansion: Cranberry bogs located immediately upstream would be affected by expansion. Surface area could be nearly doubled without affecting any other facilities. Sandy soils limit expansion potential.

Remarks: Route 28 forms the dam. The downstream side is granite masonry and concrete. The spillway is a box conduit with a weir inlet about 4 feet long and 4 feet deep. The inlet has provision for flashboards although none are in use at present. Large trees are growing on both slopes of the dam. The pond is a dammed "kettle-hole".

Ownership and Use: The pond is owned by the Town of Falmouth and is used to store water for cranberry bog irrigation.

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Existing Site CC-4001(Mill Pond)

Existing Site CC-4003 (Flax Pond)

Existing Site CC-4004 (Mill Pond)

LEGEND

WATERSHED BOUNDARY

EXISTING POND OR RESERVOIR

4001

4002

4003

4004

Source - USGS Quad Sheets
Cotuit - 1961
Falmouth - 1957
Onset - 1967
Pocasset - 1967
Sagamore - 1967
Woods Hole - 1967

SOUTH SHORE - CAPE (CC-40)
CAPE CDD STUDY AREA
MASSACHUSETTS
EXISTING AND POTENTIAL RESERVOIR SITES
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

BUZZARDS BAY STUDY AREA
SITE DATA FOR

Subwatershed BB-41, Agawam River

This subwatershed covers about 48,700 acres in Carver, Plymouth and Wareham, in Plymouth County; and Bourne, in Barnstable County. There are three U.S. Geological Survey partial record stations in the subwatershed. These stations are located at Ellisville and East Wareham on the Agawam River, and at Wareham on the Wankinco River. The subwatershed is bordered on the south by Buzzards Bay, and on the southeast by the Cape Cod Canal.

Major streams in the subwatershed include the Agawam and Wankinco Rivers. The Agawam River originates in Halfway Pond in Plymouth and flows southwesterly to tidewater at the confluence with the Wareham River in Wareham. The Wankinco River originates in East Head Pond in Carver and flows generally southerly along the Carver-Plymouth boundary to its confluence at tidewater with the Wareham River in Wareham. Elevations range from a high of about 210 feet in Plymouth to sea level at Buzzards Bay.

Geology of the subwatershed is characterized by granitic bedrock overlain by 80 to 100 feet of outwash sand and gravel.

Three potential reservoir sites and 20 existing reservoirs were studied.

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POTENTIAL SITE BB-4101

Location: On an unnamed tributary to Harlow Brook about 800 feet upstream from the Wareham-Carver town line in Carver, Mass.

Wareham, Mass. USGS quadrangle

Latitude: 41°48'16" Longitude: 70°41'32"

Facilities Affected: None below elevation 80

Geologic Conditions: Both abutments are fine sand with some thin lenses of gravel. Depth to bedrock in the foundation is estimated to be from 80 to 100 feet. Waterholding capabilities appear to be poor; leakage is expected through both abutments and possibly through the foundation. Pervious material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE BB-4103

Location: On the Agawam River about 1500 feet upstream from the Wareham-Plymouth town line in Plymouth, Mass.

Wareham, Mass. USGS quadrangle

Latitude: 41°48'29" Longitude: 70°38'35"

Facilities Affected:

Facility	Elevation
House	65
Barn	65
5 sheds	60
Agawam Road	50

Geologic Conditions: Both abutments are bedded outwash fine sand with some silt and gravel lenses. Depth to bedrock in the foundation is estimated to be from 90 to 100 feet. Waterholding capabilities appear to be poor; leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE BB-4104

Location: On Red Brook about 4400 feet upstream from Red Brook Road in Wareham, Mass. Half of the dam and reservoir area are in Plymouth, Mass.

Wareham, Mass. USGS quadrangle

Latitude: 41°46'23" Longitude: 70°37'56"

Facilities Affected:

Facility	Elevation
2 houses	50
House	45
Shed	45
6 houses	40
Pipeline	40

Geologic Conditions: Both abutments are bedded fine sand with some gravel lenses. Depth to bedrock in the foundation is estimated to be from 90 to 100 feet. Waterholding capabilities appear to be poor; leakage is expected through both abutments and the foundation. Borrow material for dam construction was located near the site.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

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SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-BUZZARDS BAY — SUBWATERSHED AGAWAM RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY					DESIGN HIGH WATER		DAM			SAFE YIELD AT 95
ELEV (MSL)	STORAGE AC FT	STORAGE IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	STORAGE AT CREST AC FT	STORAGE AT CREST IN	COST PER AC FT ($)	TYPE	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	PERCENT CHANCE (MGD)
SITE-BB-4101	DA= 0.67 SQ MI = 429 AC						USGS QUAD-WAREHAM,MASS					LATITUDE 41-48-16		LONGITUDE 70-41-32			
SITE RATING (3)			STREAM WATER QUALITY (B)				100-YR PRIN SPWY DESIGN STORM					RUNOFF = 5.00 IN, PEAK FLOW = 169 CFS					
57.6	0	0.0		5		1.7	69.0	148	4.1	2130	E	71.1	22	74.3	18	22	*****
66.4	100	2.8	3430	15	2272C	10.3	68.9	145	4.1	2360	E	71.3	22	74.3	18	22	0.14
68.4	132	3.6	2850	16	2294C	12.3	70.9	184	5.1	2040	E	73.1	29	76.1	20	26	0.18
70.3	165	4.6	2450	18	2197C	14.2	72.8	228	6.4	1770	E	75.1	37	78.1	22	32	0.21
72.5	215	6.0	2080	27	1679C	16.5	75.0	300	8.3	1490	E	77.1	44	80.0	24	37	0.25
SITE-BB-4103	DA= 3.55 SQ MI = 2272 AC						USGS QUAD-WAREHAM,MASS					LATITUDE 41-48-29		LONGITUDE 70-38-35			
SITE RATING (3)			STREAM WATER QUALITY (B)				100-YR PRIN SPWY DESIGN STORM					RUNOFF = 5.00 IN, PEAK FLOW = 518 CFS					
44.2	0	0.0		13		4.1	55.4	786	4.1	1920	E	57.8	220	62.0	22	27	*****
48.7	100	0.5	11600	35	3276C	8.7	51.2	268	1.4	4330	E	53.5	130	56.5	17	12	0.18
51.5	273	1.4	5580	88	1730C	11.6	54.0	590	3.0	2580	E	56.5	192	59.5	20	20	0.46
54.5	618	3.3	3040	149	1260C	14.5	57.0	1088	5.6	1730	E	59.5	254	62.5	23	29	0.85
57.4	1136	6.0	2000	210	1086C	17.4	59.9	1745	9.2	1300	E	62.1	373	65.6	26	41	1.31
SITE-BB-4104	DA= 3.96 SQ MI = 2534 AC						USGS QUAD-WAREHAM, MASS					LATITUDE 41-46-23		LONGITUDE 70-37-56			
SITE RATING (3)			STREAM WATER QUALITY (B)				100-YR PRIN SPWY DESIGN STORM					RUNOFF = 5.00 IN, PEAK FLOW = 417 CFS					
14.6	0	0.0		13		4.6	33.0	876	4.1	930	E	35.5	98	38.5	29	70	*****
19.7	100	0.5	6540	27	2434C	9.8	22.2	212	1.0	3090	E	24.7	48	27.7	18	22	0.20
27.5	435	2.0	2050	60	1489C	17.5	30.0	628	3.0	1420	E	32.4	82	35.4	25	51	0.67
36.0	1106	5.1	1350	100	1493C	26.0	38.5	1404	6.6	1060	E	40.8	170	43.9	34	110	1.33
42.5	2096	9.8	1250	267	983C	32.5	45.0	2954	14.0	890	E	47.0	531	50.0	40	175	2.06

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

EXISTING SITE BB-4103

Location: On the Agawam River about 1,500 feet upstream from the Wareham-Plymouth town line in Plymouth, Mass.

Wareham, Mass. USGS quadrangle

Latitude: 41°48'29" Longitude: 70°38'35"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Sq. Miles
30	15	2,600	4.06

Potential for Expansion: Please refer to Site Data and Design Summary Table for Potential Site BB-4103.

Remarks: The dam is an earthfill structure. The spillway is a covered concrete flume with provision for three bays of flashboards. There is a wooden fish ladder at the left side of the dam.

Ownership and Use: The pond is owned by A. D. Makepeace and is used for cranberry bog irrigation and recreation.

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EXISTING SITE BB-4105 (White Island Pond)

Location: On Red Brook about 300 feet downstream from the Plymouth-Wareham town line in Wareham, Mass. The majority of the pond area is in Plymouth.

Sagamore and Wareham, Mass. USGS quadrangles

Latitude: 41°48'17" Longitude: 70°37'12"

Surface Area (Acres)	Height to Dam (Ft.)	Drainage Acre (Acres)	Sq. Miles
240	4	1,650	2.58

Potential for Expansion: Topography limits any significant increase in surface area. Sandy soils may limit expansion potential. The relatively small drainage area limits potential.

Remarks: The dam is an earthfill structure. The spillway is a three bay concrete flume with flashboard channels.

Ownership and Use: The pond is owned by the Commonwealth of Massachusetts and is used for irrigation water and recreation.

****

EXISTING SITE BB-4106 (Cranberry Reservoir)

Location: On the Agawam River about 5,600 feet downstream from Halfway Pond in Plymouth, Mass.

Wareham and Sagamore, Mass. USGS quadrangles

Latitude: 41°49'58" Longitude: 70°37'36"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
15	15	1,050	1.64

Potential for Expansion: Limited. A relatively large area of shallow water would be created. Halfway Pond, located upstream, is only about 6 feet higher in elevation than this site.

Remarks: The dam is an earthfill structure. There are four concrete flume spillways with flashboards. The main spillway near the center of the dam also has a wooden fish ladder to the right side of the structure.

Ownership and Use: The reservoir is owned by A.D. Makepeace and is used for irrigation of cranberry bogs.

****

EXISTING SITE BB-4107 (Fawn Pond)

Location: On an unnamed tributary to the Agawam River about 50 feet upstream from Agawam Road in Plymouth, Mass.

Wareham, Mass. USGS quadrangle

Latitude: 41°49'26" Longitude: 70°38'10"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
45	-	400	0.63

Potential for Expansion: The small drainage area limits expansion potential.

Remarks: This is basically a ground water pond. The outlet structure is a concrete riser with flashboards and a concrete pipe conduit. A pumphouse is located near the outlet structure.

Ownership and Use: The pond is owned by A. D. Makepeace Co. and is used for cranberry bog irrigation and recreation.

****

EXISTING SITE BB-4108

Location: On Maple Springs Brook about 3,400 feet downstream from the Plymouth-Wareham town line in Wareham, Mass.

Wareham, Mass. USGS quadrangle

Latitude: 41°47'48" Longitude: 70°39'21"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
20	10	650	1.02

Potential for Expansion: Raising the present pond level by 10 feet would more than double the surface area. No facilities would be affected. Sandy soils may limit expansion potential.

Remarks: The dam is an earthfill structure. The principal spillway is a concrete drop inlet with sloping timber flashboards.

Ownership and Use: The pond is owned by A. D. Makepeace and is used for cranberry bog irrigation.

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EXISTING SITE BB-4109 (Glen Charlie Pond)

Location: On the Agawam River about 3,800 feet southwest of the Wareham Road - Glen Charlie Road intersection in Wareham, Mass.

Wareham, Mass. USGS quadrangle

Latitude: 41°47'04" Longitude: 70°39'16"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
165	15	3,100	4.84

Potential for Expansion: Topography limits any significant increase in surface area.

Remarks: The dam is a sand-fill structure with a concrete cut-off wall. The principal spillway is a concrete chute with provision for flashboards along the spillway crest. There is also a small gated spillway with a concrete drop structure located to the left of the principal spillway. There is a concrete and wood fish ladder about 1,000 feet long. Concrete in the principal spillway is cracked and spalled. Wood portions of the fish ladder are deteriorated and broken.

EXISTING SITE BB-4109 (Glen Charlie Pond) cont'd)

Ownership and Use: The pond is owned by Francis Ortolani and is used for cranberry bog irrigation.

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EXISTING SITE BB-4110 (Mill Pond)

Location: On the Agawam River at Route 28 in Wareham, Mass.

Wareham, Mass. USGS quadrangle

Latitude: 41°45'45" Longitude: 70°40'36"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
155	15	6,000	9.38

Potential for Expansion: Limited. The pond is surrounded by residential areas which would be affected by expansion. Upstream cranberry bogs would also be affected.

Remarks: The main dam is the Route 28 and 6 roadway embankment. There is also a secondary dam perpendicular to Route 28. At the east end of the secondary dam is a small concrete structure with a fish ladder and a pipe spillway under Route 28. There is a reversed concrete flume near the left edge of the pond. Near the right edge is a stone masonry drop inlet spillway with a steel conduit. Mill Pond controls the water level in several upstream ponds.

Ownership and Use: The pond is owned by Adams and Gould Lumber Corporation and is used for cranberry bog irrigation and recreation

****

EXISTING SITE BB-4111

Location: On an unnamed tributary to Buttermilk Bay about 600 feet upstream from the Bourne-Plymouth town line in Plymouth, Mass.

Sagamore, Mass. USGS quadrangle

Latitude: 41°46'14" Longitude: 70°37'03"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
15	7	200	0.31

Potential for Expansion: Expansion would affect upstream cranberry bogs. The sandy soils may also limit expansion potential.

Remarks: The dam is an earthfill structure. The spillway is a sheet steel riser with a corrugated metal pipe conduit. The riser has provision for flashboards.

Ownership and Use: The pond is owned by David Mann and is used for cranberry bog irrigation.

****

EXISTING SITE BB-4112 (Dicks Pond)

Location: On Gibbs Brook about 900 feet upstream from Routes 6 and 28 in Wareham, Mass.

Wareham, Mass. USGS quadrangle

Latitude: 41°45'31" Longitude:70°39'16"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
40	3	700	1.09

Potential for Expansion: Limited. A much longer dam would be required. Several cranberry bogs would be affected.

Remarks: The dam is an earthfill structure. The outlet is a small concrete flume with flashboards. Water is pumped onto adjacent bogs and flows back to the pond by gravity.

Ownership and Use: Ownership was not determined. The pond is used by Daniel O'Connor for cranberry bog irrigation and recreation.

****

EXISTING SITE BB-4113

Location: On Frog Foot Brook about 2,600 feet upstream from the Wareham-Plymouth town line in Plymouth, Mass.

Wareham, Mass. USGS quadrangle

Latitude: 41°48'26" Longitude: 70°42'11"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
20	17	550	0.86

Potential for Expansion: Raising the pond level by ten feet would more than double the surface area. An unpaved road would be affected.

Remarks: The dam is an earthfill structure. There are three outlet structures. Two are closed concrete conduits with flashboard-controlled inlets. The other spillway is a double-bay concrete conduit with flashboard control.

Ownership and Use: The pond is owned by A. D. Makepeace and is used for cranberry bog irrigation.

EXISTING SITE BB=4114 (Tihonet Pond)

Location: On the Wankinco River about 200 feet upstream from Tihonet Road in Wareham, Mass.

Wareham, Mass. USGS quadrangle

Latitude: 41°47'15" Longitude: 70°43'08"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
85	18	3,750	5.86

Potential for Expansion: Raising the pond level by 10 feet would nearly double the surface area. Several upstream cranberry bogs would be affected.

Remarks: The dam is an earthfill structure. There are three outlets. One is a fairly new two-bay timber flume which outlets to a 36-inch corrugated metal pipe. There is also a two-bay concrete drop inlet with flashboards. In addition, there is a two-bay concrete drop inlet which outlets to a steel conduit and then to a concrete chute.

Ownership and Use: The pond is owned by A. D. Makepeace Company and is used for cranberry bog irrigation and recreation.

EXISTING SITE BB-4115 (Parker Mills Pond)

Location: On the Wankinco River at Route 28 in Wareham, Mass.

Wareham, Mass. USGS quadrangle

Latitude: 41°46'02" Longitude: 70°43'22"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
105	18	11,450	17.89

Potential for Expansion: Raising the present pond level by 5 feet would more than double the surface area.

Remarks: Route 28 forms the dam. The upstream slope is faced with stone. The spillway is a concrete drop structure with a concrete chute to the stream. Chute sides are stone masonry. There is also a concrete fish ladder and concrete flume. The drop structure originally had timber steps which were concrete capped. Concrete in the fish ladder is broken, missing, and undermined. Some pieces of stone masonry from the chute spillway have fallen into the channel.

Ownership and Use: Ownership of the pond was not determined. The pond is used by Tremont Nail Company for industrial use and is used for recreation.

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EXISTING SITE BB-4116 (Golden Field Pond)

Location: On an unnamed tributary to the Wankinco River about 2,200 feet west of Federal Street in Carver, Mass.

Wareham, Mass. USGS quadrangle

Latitude: 41°49'09" Longitude: 70°43'36"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
15	9	125	0.20

Potential for Expansion: The small drainage area limits expansion potential.

Remarks: The dam is an earthfill structure. The spillway is a large three-bay concrete flume with provision for flashboards. There is also a concrete flume at the east side of the pond. A lift pump is used to return water from cranberry bogs to the pond. There is a pumphouse located over the main spillway.

EXISTING SITE BB-4116 (Golden Field Pond) cont'd

Ownership and Use: The pond is owned by Smith-Hammond Cranberry Company and is used for cranberry bog irrigation.

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EXISTING SITE BB-4117

Location: On an unnamed tributary to Rose Brook about 500 feet south of the Carver-Wareham town line in Wareham, Mass.

Wareham, Mass. USGS quadrangle

Latitude: 41°47'56" Longitude: 70°43'56"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
30	4	750	1.17

Potential for Expansion: Expansion would affect several cranberry bogs. Sandy soil may limit expansion potential. A much longer dam would be needed.

Remarks: The dam is an earthfill structure surrounded on three sides by cranberry bogs. A total of eleven concrete or timber flumes serve the bogs.

Ownership and Use: The pond is owned by Robert Hammond and is used for cranberry bog irrigation.

****

EXISTING SITE BB-4118

Location: On Rose Brook about 7,000 feet downstream from the Carver-Wareham town line in Wareham, Mass.

Wareham, Mass. USGS quadrangle

Latitude: 41°46'54" Longitude: 70°44'12"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
10	15	1,600	2.50

Potential for Expansion: Limited. Several cranberry bogs are located immediately upstream. Sandy soils may limit expansion potential.

Remarks: The dam is an earthfill structure. The dam is vegetated and has some trees on the upstream slope. There are three concrete outlet structures. One near the left abutment is a single-bay flume. Near the center of the dam is a two-bay flume. The third structure near the right abutment is blocked by silt. Concrete in the right structure is badly spalled. Erosion has occurred near the center structure outlet. The dam and abutments are sand.

Ownership and Use: The pond is owned by Cranberry Corporation of America and is used for cranberry bog irrigation.

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EXISTING SITE BB-4120 (East Head Pond)

Location: On the Wankinco River at East Head Road on the Carver-Plymouth town line.

Wareham, Mass. USGS quadrangle

Latitude: 41°50'20" Longitude: 70°41'25"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
90	13	350	0.55

Potential for Expansion: Topography limits any significant increase in surface area. The relatively small drainage area also limits expansion potential.

Remarks: East Head Road forms the dam. The upstream slope is faced with stone. There are two concrete drop inlet flume spillways.

Ownership and Use: The pond is owned by A. D. Makepeace Company and is used for cranberry bog irrigation and recreation.

****

EXISTING SITE BB-4121 (Mosquito Pond)

Location: On an unnamed tributary to the Wankinco River about 2,500 feet upstream from Tihonet Road in Wareham, Mass.

Wareham, Mass. USGS quadrangle

Latitude: 41°47'27" Longitude: 70°43'46"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area* (Acres)	(Sq. Miles)
5	7	975	1.52

Potential for Expansion: Limited. Several upstream cranberry bogs would be affected. Sandy soils may limit expansion potential.

Remarks: The dam is an earthfill structure. Mosquito Pond is separated into two bodies of water by a narrow dike. There are two spillways; a timber drop inlet structure and a concrete drop inlet and concrete pipe conduit. Both spillways have provision for flashboards.

Ownership and Use: The pond is owned by A. D. Makepeace Company and is used for cranberry bog irrigation.

*Drainage area may be inaccurate due to complicated cranberry bog system located upstream.

****

EXISTING SITE BB-4122

Location: On an unnamed tributary to Maple Springs Brook about 2,600 feet upstream from Maple Springs Road in Wareham, Mass.

Wareham, Mass. USGS quadrangle

Latitude: 41°47'21" Longitude: 70°40'35"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
15	7	550	0.86

Potential for Expansion: Sandy soils may limit expansion potential.

Remarks: The dam is an earthfill structure. Timbers along the upstream face provide some wave-erosion control. The main spillway is a covered timber flume. There are also three other outlets; a concrete conduit, concrete drop inlet and concrete flume which serve cranberry bogs.

Ownership and Use: The pond is owned by Francis Ortolani and is used for cranberry bog irrigation.

EXISTING SITE BB-4123

Location: On an unnamed tributary to the Agawam River about 1,000 feet west of Agawam Road in Wareham, Mass.

Wareham, Mass. USGS quadrangle

Latitude: 41°47'07" Longitude: 70°39'34"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area* (Acres)	(Sq. Miles)
10	15	50	0.08

Potential for Expansion: Flat topography limits expansion potential.

Remarks: The dam is an earthfill structure. There are three outlets; a concrete drop inlet with a concrete box conduit, a four-bay concrete flume with flashboards, and another concrete flume with flashboards. A concrete flume inlets water from Glen Charlie Pond.

Ownership and Use: Ownership of the pond was not determined. The pond is used for cranberry bog irrigation and recreation.

*This is the direct drainage area only. Water is also diverted into the pond from Glen Charlie Pond.

****

EXISTING SITE BB-4124

Location: On Rose Brook about 1,400 feet upstream from the Wareham-Carver town line in Carver, Mass.

Wareham, Mass. USGS quadrangle

Latitude: 41°48'15" Longitude: 70°44'20"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
10	11	850	1.33

Potential for Expansion: Limited very flat topography would cause many upstream cranberry bogs to be affected by expansion.

Remarks: The dam is an earthfill structure. The upstream slope is riprapped near the outlet structure and at water level. The outlet is a capped concrete flume with flashboards.

Ownership and Use: The pond is owned by A. D. Makepeace Company and is used for cranberry bog irrigation.

****

BB - 4103

BB - 4107
Fawn Pond

BB - 4105
White Island Pond

BB - 4108

BB - 4106
Cranberry Pond

EXISTING RESERVOIRS
AGAWAM RIVER

BB - 4109
Glen Charlie Pond

BB - 4110
Mill Pond

BB - 4111

BB - 4112
Dicks Pond

BB - 4113

EXISTING RESERVOIRS
SUBWATERSHED BB-41
AGAWAM RIVER

BB-4114
Tihonet Pond

BB-4117

BB-4115
Parker Mills Pond

BB-4118

BB-4116
Golden Field Pond

EXISTING RESERVOIRS
SUBWATERSHED BB-41
AGAWAM RIVER

BB - 4120
East Head Pond

BB - 4122

BB - 4121
Mosquito Pond

BB - 4123

EXISTING RESERVOIRS
SUBWATERSHED BB-41
AGAWAM RIVER

LEGEND

WATERSHED BOUNDARY

DRAINAGE AREA ABOVE STRUCTURE

POTENTIAL SITE SHOWING BENEFICIAL POOL FOR LARGEST STRUCTURE

EXISTING POND OR RESERVOIR

Source - USGS Quad. Sheets
Onset - 1967
Monomet - 1962
Wareham - 1957
Sagamore - 1967
Pocasset - 1967
Plymouth - 1967

AGAWAM RIVER (BB-41)
BUZZARDS BAY STUDY AREA
MASSACHUSETTS
EXISTING AND POTENTIAL RESERVOIR SITES
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

BUZZARDS BAY STUDY AREA
SITE DATA FOR

Subwatershed BB-42, Weweantic River

This subwatershed covers about 28,700 acres in Carver, Kingston, Middleborough, Plymouth, Rochester and Wareham, in Plymouth County. There is a U.S. Geological Survey stream gaging station on the Weweantic River at South Wareham. This subwatershed was considered as a potential multiple purpose flood control project under Public Law 566, however preliminary investigations were terminated because of insufficient local interest.

The Weweantic River is the major stream in the subwatershed. It originates as South Meadow Brook in Plymouth and flows generally southerly along the Carver-Middleborough border, to tidewater at Buzzards Bay in Wareham. Elevations range from a high of about 190 feet in Plymouth to sea level at Buzzards Bay.

Geology of the subwatershed is characterized by granitic bedrock overlain by 25 to 35 feet of outwash sand and gravel.

One potential reservoir site and 2 existing reservoirs were studied.

****

POTENTIAL SITE BB-4201

Location: On the Weweantic River about 200 feet upstream from Rochester Road in Carver, Mass. Half of the dam and reservoir area is in Middleboro, Mass.

Snipatuit Pond, Mass. USGS quadrangle

Latitude: 41°49'48" Longitude: 70°46'21"

Facilities Affected:

Facility	Elevation
37 houses	85
34 garages	85
3 houses	80
2 barns	80
2 sheds	80

Geologic Conditions: Both abutments are outwash sand and gravel with cobbles and boulders. Depth to bedrock in the foundation is estimated to be from 25 to 35 feet. Waterholding capabilities appear to be poor to fair; leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: Preliminary designs indicate that a concrete drop structure emergency spillway will probably be required at this site.

****

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-BUZZARDS BAY — SUBWATERSHED WEWEANTIC RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	TYPE	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-BB-4201 DA= 29.67 SQ MI = 18989 AC USGS QUAD-SNIPATUIT POND,MASS LATITUDE 41-49-48 LONGITUDE 70-46-21																	
SITE RATING (3) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 5.00 IN, PEAK FLOW = 2383 CFS																	
74.6	100	0.1	39400	230	17170	4.6	74.6	N	337	0.2	11680	81.6	1526	86.6	17	21	0.35
77.1	990	0.6	4620	506	9030	7.1	77.1	D	1227	0.8	3720	82.0	1689	86.1	16	19	1.87
78.6	1880	1.2	2530	679	7010	8.7	78.6	D	2117	1.2	2250	82.0	1671	85.0	15	17	3.28

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

The following potential sites were identified in the Public Law-566 preliminary watershed investigation of the Weweantic River. Many of the sites did not meet the criteria for detailed study in this inventory. For further information concerning these sites, please refer to the "Reconnaissance Investigation Report for the Weweantic River Watershed", March 1971 or contact the U. S. Department of Agriculture, Soil Conservation Service, Amherst, Massachusetts 01002.

POTENTIAL SITE BB-4212

Location: On South Meadow Brook about 1,000 feet downstream from the Plymouth-Carver town line in Carver, Mass.

Plymouth, Mass. USGS quadrangle

POTENTIAL SITE BB-4215

Location: On South Meadow Brook about 4,000 feet east of Route 58 in Carver, Mass.

Plympton, and Plymouth, Mass. USGS quadrangles

POTENTIAL SITE BB-4217

Location: On South Meadow Brook about 200 feet upstream from Popes Points Street in Carver, Mass.

Snipatuit Pond, Mass. USGS quadrangle

POTENTIAL SITE BB-4221

Location: On the Weweantic River about 200 feet upstream from Rochester Road in Carver, Mass.

Snipatuit Pond, Mass. USGS quadrangle

POTENTIAL SITE BB-4222

Location: On the Weweantic River about 1,500 feet downstream from Route 58 in Carver, Mass.

Snipatuit Pond, Mass. USGS quadrangle

POTENTIAL SITE BB-4235

Location: On Rocky Meadow Brook about 700 feet upstream from the Carver-Middleborough town line in Middleborough, Mass.

Plympton, Mass. USGS quadrangle

POTENTIAL SITE BB-4237

Location: On Double Brook about 500 feet upstream from France Street in Middleborough, Mass.

Snipatuit Pond, Mass. USGS quadrangle

POTENTIAL SITE BB-4238

Location: On an unnamed tributary to South Meadow Brook about 1,200 feet east of South Meadow Street in Carver, Mass.

Plymouth, Mass. USGS quadrangle

EXISTING SITE BB-4202

Location: On the Weweantic River about 500 feet downstream from Main Street in Wareham, Mass.

Snipatuit Pond, Mass. USGS quadrangle

Latitude: 41°47'23" Longitude: 70°45'54"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
33	27	26,700	41.72

Potential for Expansion: Flat topography limits expansion potential. Sandy soils may limit expansion potential.

Remarks: The dam is an earthfill structure faced with stone. The spillway is a two-bay concrete ogee weir with timber gates to control the water level. An old power plant building is located near the spillway. Concrete in the spillway has surface cracks and is badly spalled. There is seepage along the entire length of the embankment.

Ownership and Use: The pond is owned by the town of Wareham and is used for recreation.

****

EXISTING SITE BB-4203 (Horseshoe Pond)

Location: On the Weweantic River at tidewater in Wareham, Mass.

Wareham, Mass. USGS quadrangle

Latitude: 41°45'53" Longitude: 70°44'52"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
85	11	28,550	44.61

Potential for Expansion: Raising the existing pond level by 10 feet would about double the surface area. Three streets would be affected. Sandy soils may limit expansion potential.

Remarks: The dam is an earthfill mill dam. The principal spillway is a multi-bay concrete drop structure with provision for flashboards. The center bay has a mechanical gate to allow draining of the pond. There is also a secondary concrete chute spillway. The concrete in the principal spillway is cracked and spalled.

Ownership and Use: The pond is owned by H. & E. Robbins and is used for recreation.

****

EXISTING SITE BB-4204 (Blackmere Reservoir)

Location: On Beaverdam Creek about 1,700 feet upstream from Route 6 in Wareham, Mass.

Wareham, Mass. USGS quadrangle

Latitude: 41°48'17" Longitude: 70°44'10"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
22	6	100	0.16

Potential for Expansion: The small drainage area limits expansion potential.

Remarks: The dam is an earthfill structure. The principal spillway is a sheet-steel drop inlet with a corrugated metal pipe conduit. There is also a timber flume located to the west of the principal spillway.

Ownership and Use: The reservoir is owned by David Mann and is used for cranberry bog irrigation.

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BB - 4202

BB - 4203
Horseshoe Pond

BB-4204
Blackmere Reservoir

EXISTING RESERVOIRS
SUBWATERSHED BB-42
WEWEANTIC RIVER

LEGEND

WATERSHED BOUNDARY

DRAINAGE AREA ABOVE STRUCTURE

POTENTIAL SITE SHOWING BENEFICIAL POOL FOR LARGEST STRUCTURE

EXISTING POND OR RESERVOIR

POTENTIAL SITE IDENTIFIED IN PL-566 INVESTIGATION

4212

LOCATION MAP

4212

4238

4235

4215

4217

4201

4221

4222

4237

4202

4203

4204

WEWEANTIC RIVER (BB-42)

BUZZARDS BAY STUDY AREA

MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Source - USGS Quad Sheets
Onset - '67
Marion - '62
Wareham - '57
Plympton - '62
Plymouth - '62
Snipatuit Pond - '67

BUZZARDS BAY STUDY AREA
SITE DATA FOR

Subwatershed BB-43, Crane Brook

This subwatershed covers about 9,500 acres in Carver and Plymouth in Plymouth County. This subwatershed was considered as part of a potential flood control project in the Weweantic River Watershed. Preliminary investigations were terminated because of insufficient local interest.

Crane Brook is the major stream in the subwatershed. It originates in Plymouth and flows generally southwesterly to the confluence with the Weweantic River in Carver. Crane Brook flows through cranberry bogs for most of its length. Elevations range from a high of about 210 feet in Plymouth to a low of about 70 feet in Carver. Geology of the subwatershed is characterized by granite bedrock overlain by 25 to 50 feet of outwash sand and gravel.

No potential or existing reservoir sites which met inventory criteria were located in this subwatershed.

The following potential sites were identified in the Public Law-566 preliminary watershed investigation of the Weweantic River. For further information concerning these sites, please refer to the "Reconnaissance Investigation Report for the Weweantic River Watershed", March 1971, or contact the U.S. Department of Agriculture, Soil Conservation Service, Amherst, Mass. 01002.

POTENTIAL SITE BB-4339

Location: On an unnamed tributary to Crane Brook in Cedar Swamp about 4,500 feet west of Tremont Street in Carver, Mass.

Plymouth, Mass. USGS quadrangle

POTENTIAL SITE BB-4340

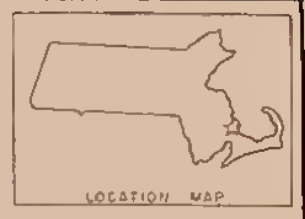
Location: On Crane Brook at Federal Pond about 700 feet west of the Plymouth-Carver town line in Carver, Mass.

Wareham, Mass. USGS quadrangle

POTENTIAL SITE BB-4350

Location: On Crane Brook about 3,000 feet upstream from Cranberry Road in Carver, Mass.

Wareham, Mass. USGS quadrangle



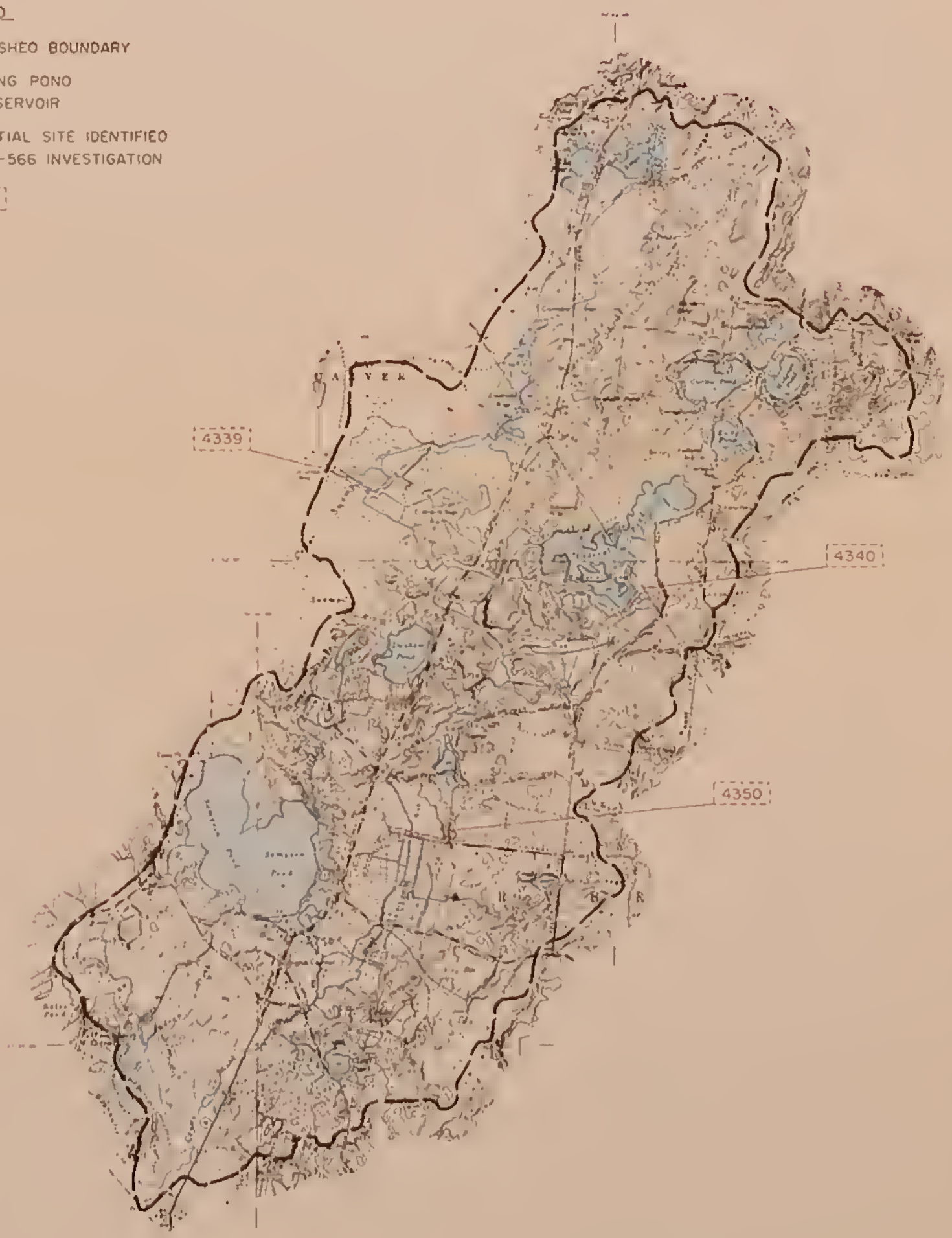
LEGEND

WATERSHED BOUNDARY

EXISTING POND OR RESERVOIR

POTENTIAL SITE IDENTIFIED IN PL-566 INVESTIGATION

4300



Source - USGS Quad Sheets

Plymouth, Mass - 1962
Wareham, Mass - 1957
Sniptuit, Mass - 1962

CRANE BROOK (BB-43)

BUZZARDS BAY STUDY AREA

MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

BUZZARDS BAY STUDY AREA
SITE DATA FOR

Subwatershed BB-44, Mattapoisett River

This subwatershed covers about 53,700 acres in Acushnet and Fairhaven in Bristol County; and Marion, Mattapoisett, Middleborough, Rochester and Wareham in Plymouth County.

Major streams in the subwatershed include the Mattapoisett and Sippican Rivers. The Mattapoisett River originates in Rochester and flows south through Mattapoisett to the Atlantic Ocean. The Sippican River also originates in Rochester and flows southeasterly to the Weweantic River in Marion. Elevations range from a high of 155 feet in South Middleboro to sea level in Mattapoisett. Geology of the subwatershed is characterized by granite bedrock overlain by 30 to 50 feet of outwash sand and gravel.

Three potential reservoir sites and 9 existing reservoirs were studied.

****

POTENTIAL SITE BB-401

Location: On an unnamed tributary to Mattapoisett River about 100 feet upstream from Tinkham Lane in Mattapoisett, Mass. Most of the reservoir area is in Acushnet, Mass.

Marion, Mass. USGS quadrangle

Latitude: 41°40'54" Longitude: 70°51'27"

Facilities Affected:

Facility	Elevation
House	35
Garage	35
2 sheds	35
House	30
Garage	30
2 sheds	30

Geologic Conditions: Both abutments are outwash sand and gravel with some large boulders. Bedrock outcrops high on the left abutment. Depth to granite bedrock in the foundation is estimated to be from 40 to 50 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

****

POTENTIAL SITE BB-4402

Location: On the Mattapoisett River about 1000 feet downstream from Tinkham Lane in Mattapoisett, Mass.

Marion, Mass. USGS quadrangle

Latitude: 41°40'56" Longitude: 70°50'28"

Facilities Affected:

Facility	Elevation
House	25
2 garages	25
Shed	25
Tinkham Lane	25
Pumphouse and well	20

Geologic Conditions: Both abutments are fine, poorly graded, outwash sand and gravel. Depth to granite bedrock in the foundation is estimated to be from 40 to 50 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: Preliminary designs indicate that a concrete drop structure emergency spillway will probably be required at this site. The large drainage area may permit maintainance of a pool where inflow will be sufficient to overcome expected seepage losses.

****

POTENTIAL SITE BB-4403

Location: On the Mattapoisett River about 100 feet upstream from Rounseville Road in Rochester, Mass.

Marion, Mass. USGS quadrangle

Latitude: 41°44'10" Longitude: 70°51'47"

Facilities Affected:

Facility	Elevation
16 houses	60
Garage	60
3 sheds	60
17 houses	55
2 buildings	55
15 garages	55
7 sheds	55
Hartley Road	55
Snipatuit Road	55
6 houses	50
Commercial building	50
7 garages	50
3 sheds	50
Highway garage	50

POTENTIAL SITE BB-4403 (continued)

Geologic Conditions: Both abutments are outwash sand and gravel with some large boulders. Depth to bedrock in the foundation is estimated to be from 30 to 40 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: Preliminary designs indicate that a concrete drop structure emergency spillway will probably be required at this site. The large drainage area may permit maintenance of a pool where inflow will be sufficient to overcome expected seepage losses.

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SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-BUZZARDS BAY — SUBWATERSHED MATTAPOISETT RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY					DESIGN HIGH WATER		DAM			SAFE YIELD AT 95
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV ++ TYPE (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)		ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	PERCENT CHANCE (MGD)
SITE-BB-4401	DA= 3.32 SQ MI = 2125 AC			USGS QUAD-MARION,MASS							LATITUDE 41-40-54 LONGITUDE 70-51-27						
SITE RATING (3)	STREAM WATER QUALITY (B)			100-YR PRIN SPWY DESIGN STORM							RUNOFF = 5.00 IN, PEAK FLOW = 710 CFS						
28.5	0	0.0		40		6.5	34.0 E	735	4.1	1800		36.4	264	39.4	17	59	*****
30.0	100	0.6	1420	111	1279C	8.1	34.5 E	882	5.0	1610		36.9	277	39.9	18	63	0.18
32.0	362	2.0	4270	158	976C	10.1	34.5 E	866	4.9	1790		37.0	280	40.0	18	64	0.56
32.5	435	2.5	3630	169	937C	10.5	35.0 E	963	5.4	1640		37.4	290	40.0	18	64	0.64
SITE-BB-4402	DA= 18.90 SQ MI = 12096 AC			USGS QUAD-MARION,MASS							LATITUDE 41-40-56 LONGITUDE 70-50-28						
SITE RATING (3)	STREAM WATER QUALITY (B)			100-YR PRIN SPWY DESIGN STORM							RUNOFF = 5.00 IN, PEAK FLOW = 1211 CFS						
18.5	100	0.1	24720	106	2323C	4.5	18.5 C	251	0.2	9840		25.1	672	29.0	15	48	0.21
20.7	473	0.5	6240	227	1299C	6.8	20.7 D	624	0.6	4730		26.0	782	29.4	15	52	0.93
22.1	845	0.8	3910	365	906C	8.1	22.1 D	997	1.0	3310		26.7	841	29.7	16	55	1.55
22.5	989	1.0	3490	403	856C	8.5	22.5 D	1140	1.1	3020		27.0	875	30.0	16	59	1.81
SITE-BB-4403	DA= 11.90 SQ MI = 7616 AC			USGS QUAD-MARION,MASS							LATITUDE 41-44-10 LONGITUDE 70-51-47						
SITE RATING (3)	STREAM WATER QUALITY (B)			100-YR PRIN SPWY DESIGN STORM							RUNOFF = 5.00 IN, PEAK FLOW = 958 CFS						
43.7	0	0.0		103		3.6	43.7 N	95	0.2	47070		57.1	1878	60.0	20	106	*****
44.7	100	0.2	29620	119	2487C	4.6	44.7 N	195	0.3	15170		53.4	1004	57.1	17	63	0.21
47.5	506	0.8	8120	165	2499C	7.6	47.5 D	602	0.8	6840		55.4	1457	59.0	19	89	0.93
49.8	913	1.4	4930	200	2249C	9.8	49.8 D	1008	1.6	4470		56.1	1661	59.6	20	101	1.52
52.3	2132	3.4	2370	752	673C	12.3	52.3 D	2227	3.5	2270		56.6	1773	59.6	20	101	2.93
52.5	2271	3.5	2260	787	651C	12.5	52.5 D	2366	3.6	2170		56.8	1797	59.8	20	103	3.08

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

EXISTING SITE BB-4401 (Tinkham Pond)

Location: On an unnamed tributary to Mattapoisett River at Tinkham Lane in Mattapoisett, Mass. Most of the pond is in Acushnet, Mass.

Marion, Mass. USGS quadrangle.

Latitude: 41°40'54" Longitude: 70°51'27"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
17	9	2,150	3.36

Potential for Expansion: Please refer to Site Data and Design Summary Table for Potential Site BB-4401.

Remarks: Tinkham Lane forms the dam. There are two spillways. The principal spillway is a double-bay concrete flume with flash-boards. The other spillway is a rectangular three-bay concrete drop structure which outlets to a stone box culvert. Trees and brush are growing on the dam. Concrete in the spillways has spalled.

Ownership and Use: The pond is owned by Decas Bros. and is used for cranberry bog irrigation and recreation.

****

EXISTING SITE BB-4403 (Harley Mill Pond)

Location: On the Mattapoisset River at Rounseville Road in Rochester, Mass.

Marion, Mass. USGS quadrangle

Latitude: 41°44'10" Longitude: 70°51'47"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
now 0 originally 78	10	7,600	11.88

Potential for Expansion: Please refer to Site Data and Design Summary Table for Potential Site BB-4403.

Remarks: The dam has been breached. A mill building located near the dam has burned down.

Ownership and Use: The pond area is owned by Rounseville Sawmill and is no longer in use.

****

EXISTING SITE BB-4404

Location: On an unnamed tributary to the East Branch of the Sippican River about 2,300 feet south of the Middleborough-Rochester town line in Rochester, Mass.

Snipatuit Pond, Mass. USGS quadrangle

Latitude: 41°47'27" Longitude: 70°47'54"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
7	6	1,400	2.19

Potential for Expansion: The pond could be expanded into Forbes Swamp. A body of shallow water would be created by expansion.

Remarks: The dam is an earthfill structure. There are three outlet structures. One is a double bay concrete flume. The next structure is a single bay concrete flume. Near the center of the dam is a concrete drop structure. Concrete in all structures is spalled to some extent.

Ownership and Use: The pond is owned by Slocum Gibbs and is used for cranberry bog irrigation.

****

EXISTING SITE BB-4405

Location: On the East Branch of the Sippican River about 4,000 feet west of County Road in Rochester, Mass.

Snipatuit Pond, Mass. USGS quadrangle

Latitude: 41°47'43" Longitude: 70°47'14"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
26	12	2,750	4.30

Potential for Expansion: Expansion would affect several upstream cranberry bogs. A body of shallow water would be created by expansion.

Remarks: The dam is an earthfill structure. The spillway is a two-bay concrete flume with flashboards. There is also a timber riser which controls flow to a canal.

Ownership and Use: The pond is owned by A. D. Makepeace Co. and is used for cranberry bog irrigation.

****

EXISTING SITE BB-4406

Location: On the East Branch of the Sippican River about 900 feet upstream from Pierceville Road in Rochester, Mass.

Snipatuit Pond, Mass. USGS quadrangle

Latitude: 41°46'12" Longitude: 70°47'00"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	(Sq. Miles)
31	12	4,050	6.33

Potential for Expansion: Sandy soils may limit expansion potential. Expansion would affect upstream cranberry bogs.

Remarks: The dam is an earthfill structure. There are three outlets. One is a three-bay concrete flume. The other is a timber flume. The third structure is a concrete drop inlet and steel pipe conduit. All outlets have provison for flashboards. There is another reservoir located immediately upstream. Water level is about 0.5 feet higher.

Ownership and Use: The pond is owned by A. D. Makepeace Company and is used for cranberry bog irrigation.

****

EXISTING SITE BB-4407 (Leonards Pond)

Location: On the Sippican River at Marys Pond Road in Rochester, Mass.

Marion and Snipatuit Pond, Mass. USGS quadrangles

Latitude: 41°44'53" Longitude: 70°48'18"

Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Sq. Mi.
51	10	9,800	15.31

Potential for Expansion: Expansion would create a large body of shallow water. Sandy soils may limit expansion potential.

Remarks: The dam is an earthfill structure faced with stone and stone masonry. There are three spillway structures in the dam. The left structure is a stone masonry two-bay drop structure with flashboards. The center structure, outletting under a mill building, is a concrete open flume with flashboards. The right structure is a stone drop structure with five bays of sloping timber flashboards. There are also two concrete flumes located on the east side of the reservoir which deliver water to cranberry bogs. Several areas behind the stone masonry on the dam have washed away.

Existing Site BB-4407 (continued)

Ownership and Use: Ownership of the pond was not determined. The pond is controlled by Howard Hiller and is used for cranberry bog irrigation and recreation.

****

Existing Site BB-4408(Hathaway Pond)

Location: On the Sippican River about 700 feet upstream from the Marion-Rochester town line in Rochester, Mass.

Marion, Mass. USGS quadrangle

Latitude: 41°43'59" Longitude: 70°47'43"

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
18	8	10,150	15.86

Potential for Expansion: Raising the pond level by 8 feet would create a pool area of about 90 acres.

Remarks: The dam is an earthfill structure. There are two spillways. One is a stone masonry sidewalled structure with two bays of flashboards. The other is a five-bay covered concrete flume with flashboards. There is also a concrete fish ladder. Trees and bruch are growing on the dam. The upstream slope is nearly vertical in places, but appears stable. Wave erosion has occurred near the concrete spillway. Concrete in the spillway has spalled.

Ownership and Use: Ownership of the pond was not determined. The pond is controlled by Hiller Brothers and is used for cranberry bog irrigation.

****

Existing Site BB-4409

Location: On an unnamed tributary to the West Branch of the Sippican River about 3000 feet south of the Middleborough-Rochester town line in Rochester, Mass.

Snipatuit Pond, Mass. USGS quadrangle

Latitude: 41°47'48" Longitude: 70°49'02"

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
21	6	250	0.39

Potential for Expansion: The pond could be expanded into Forbes Swamp. A much longer dam would be required. A body of shallow water would be created by expansion.

Remarks: The dam is an earthfill structure. There is also a 4-foot high earthfill dike. The spillway is a timber flume with two bays of flashboards. Trees and shrubs are growing on the dam.

Ownership and Use: Ownership of the pond was not determined. The pond is used to store water for use in cranberry bogs.

****

Existing Site BB-4410(Mill Pond)

Location: On the West Branch of the Sippican River about 300 feet upstream from Walnut Plain Road in Rochester, Mass.

Snipatuit Pond, Mass. USGS quadrangle

Latitude: 41°45'36" Longitude: 70°49'30"

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
6	6	1,400	2.19

Potential for Expansion: Flat topography limits expansion potential.

Remarks: The dam is an earthfill structure. A low stone wall runs along the toe of the downstream slope. The spillway system consists of a two-bay and a single-bay concrete flume with flashboards. There appears to be seepage near the center of the dam which surfaces about 15 feet downstream of the downstream toe.

Ownership and Use: The pond is owned by Decas Bros. and is used for cranberry bog irrigation.

****

Existing Site BB-4411(Snipatuit Pond)

Location: On the Mattapoisett River about 4600 feet upstream from Snipatuit Road in Rochester, Mass.

Snipatuit Pond, Mass. USGS quadrangle

Latitude: 41°45'45" Longitude: 70°52'09"

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
740	3	3,250	5.08

Potential for Expansion: The relatively small drainage area limits expansion potential. A large body of shallow water would be created if the pond were expanded into Cedar Swamp.

Remarks: The dam is a short earthfill structure. The spillway is an open concrete flume adjacent to a fish ladder. The flume has provision for flashboards. Some of the earthfill near the spillway has been washed away.

Ownership and Use: The pond is owned by the Massachusetts Department of Fish and Game and is used for recreation and cranberry bog irrigation.

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BB - 4401
Tinkham Pond

BB - 4406

BB - 4403
Harley Mill Pond

BB - 4407
Leonards Pond

BB - 4405

EXISTING RESERVOIRS
SUBWATERSHED BB-44
MATTAPOISETT RIVER

BB - 4408
Hathaway Pond

BB - 4410
Mill Pond

BB - 4409

BB - 4411
Snipatuit Pond

EXISTING RESERVOIRS
SUBWATERSHED BB-44
MATTAPOISETT RIVER

LEGEND

WATERSHED BOUNDARY

DRAINAGE AREA ABOVE STRUCTURE

POTENTIAL SITE SHOWING BENEFICIAL POOL FOR LARGEST STRUCTURE

EXISTING POND OR RESERVOIR

4401

4402

4403

4404

4405

4406

4407

4408

4409

4410

4411

LOCATION MAP

MATTAPOISETT RIVER (BB-44)

BUZZARDS BAY STUDY AREA

MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

Source - USGS Quad Sheets
Onset - 1967
Marion - 1962
Snipatuit Pond - 1962
Scanticut Neck - 1962
Assawompset Pond - 1963
New Bedford North - 1964

BUZZARDS BAY STUDY AREA
SITE DATA FOR

Subwatershed BB-45, Acushnet River

This subwatershed covers about 55,800 acres in Acushnet, Dartmouth, Fairhaven, Freetown, New Bedford, and Westport, all in Bristol County; and Rochester in Plymouth County.

Major streams in the subwatershed include the Acushnet and Paskamanset Rivers. The Acushnet originates in the headwaters of New Bedford Reservoir in Acushnet and flows south to New Bedford Harbor and the Atlantic Ocean. The Paskamanset River originates in Dartmouth and flows south to Russells Mills where it becomes the Slocums River which flows to the Atlantic Ocean. Elevations range from a high of 220 feet in Dartmouth to sea level in Buzzards Bay.

Geology of the subwatershed is characterized by granite bedrock overlain by 10 to 15 feet of glacial till.

Three potential reservoir sites and one existing reservoir were studied.

****

POTENTIAL SITE BB-4501

Location: On an unnamed tributary to Allens Pond (Dartmouth) about 2200 feet downstream from Cross St. in Westport, Mass.

Westport, Mass.-R.I. USGS quadrangle

Latitude: 41°31'46" Longitude: 71°01'50"

Facilities Affected:

Facility	Elevation
Cross Street	50

Geologic Conditions: Both abutments are glacial till underlain by bedrock. Depth to bedrock in the foundation is estimated to be from 10 to 15 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: Preliminary designs indicate that a monolithic conduit emergency spillway will probably be required at this site.

****

POTENTIAL SITE BB-4503

Location: On an unnamed tributary to Allens Pond about 2600 feet downstream from Horseneck Road in Dartmouth, Mass.

Westport, Mass.-R.I. USGS quadrangle

Latitude: 41°31'22" Longitude: 71°01'31"

Facilities Affected:

Facility	Elevation
4 sheds	40
Horseneck Road	40
3 sheds	35

Geologic Conditions: Both abutments are glacial till underlain by granite bedrock. Depth to bedrock in the foundation is estimated to be from 10 to 15 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

****

POTENTIAL SITE BB-4504

Location: On Destruction Brook about 1900 feet upstream from Slades Corner Road in Dartmouth, Mass.

Westport, Mass.-R.I. USGS quadrangle

Latitude: 41°34'34" Longitude: 71°01'05"

Facilities Affected: None below elevation 80

Geologic Conditions: Both abutments are glacial till, underlain by granite bedrock. Depth to bedrock in the foundation is estimated to be very shallow. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

****

POTENTIAL SITE BB-4505

Location: On an unnamed tributary to the Acushnet River about 1000 feet upstream from Middle Road in Acushnet, Mass.

New Bedford North, Mass. USGS quadrangle

Latitude: 41°42'54" Longitude: 70°54'45"

Facilities Affected:

Facility	Elevation
4 houses	65
2 houses	60
Morses Lane	55

Geologic Conditions: Both abutments are englacial drift; shallow to gneiss bedrock. There are many large surface boulders. Depth to bedrock in the foundation is estimated to be from 15 to 20 feet. Waterholding capabilities appear to be fair to poor. Leakage is expected through both abutments and the foundation. Borrow material for dam construction was located near the site.

Engineering Notes: Preliminary designs indicate that a monolithic conduit emergency spillway will probably be required at this site.

****

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-BUZZARDS BAY — SUBWATERSHED ACUSHNET RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV ++ TYPE (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-BB-45C1 DA= 0.55 SQ MI = 352 AC — USGS QUAD-WESTPORT,MASS — LATITUDE 41-31-46 LONGITUDE 71-01-50																
SITE RATING (1) — STREAM WATER QUALITY (B) — 100-YR PRIN SPWY DESIGN STORM — RUNOFF = 5.00 IN, PEAK FLOW = 157 CFS																
32.2	0	0.0		4		1.2	39.8 E	122	4.1	2790	43.0	37	49.8	19	39	*****
39.0	100	3.4	3930	25	15770	8.1	39.0 E	104	3.5	3760	43.7	39	50.3	19	42	0.14
40.4	135	4.6	3100	29	14470	9.3	40.4 E	140	4.8	3000	44.8	43	51.0	20	45	0.17
41.5	170	5.8	2610	32	13690	10.6	41.5 E	175	6.0	2540	45.8	46	51.6	21	48	0.20
42.5	205	7.0	2280	36	13110	11.6	42.5 E	210	7.1	2230	46.7	48	52.4	21	51	0.23
SITE-BB-4503 DA= 0.90 SQ MI = 576 AC — USGS QUAD-WESTPORT,MASS — LATITUDE 41-31-22 LONGITUDE 71-01-31																
SITE RATING (1) — STREAM WATER QUALITY (B) — 100-YR PRIN SPWY DESIGN STORM — RUNOFF = 5.00 IN, PEAK FLOW = 258 CFS																
21.5	0	0.0		6		1.5	29.5 E	199	4.1	1880	33.5	62	38.0	18	44	*****
27.0	100	2.0	4340	30	14420	7.0	29.5 E	195	4.1	2220	34.3	67	38.5	19	47	0.15
29.5	195	4.1	2650	42	12380	9.6	32.0 E	324	6.6	1590	36.0	77	40.3	20	57	0.26
31.7	289	6.0	2000	52	11060	11.7	34.2 E	445	9.3	1300	37.5	85	41.5	22	66	0.33
33.3	384	8.0	1650	61	10320	13.2	35.8 E	561	11.7	1130	38.8	92	42.7	23	73	0.41
SITE-88-4504 DA= 2.52 SQ MI = 1613 AC — USGS QUAD-WESTPORT,MASS — LATITUDE 41-34-34 LONGITUDE 71-01-05																
SITE RATING (1) — STREAM WATER QUALITY (B) — 100-YR PRIN SPWY DESIGN STORM — RUNOFF = 5.00 IN, PEAK FLOW = 623 CFS																
64.5	0	0.0		15		2.5	74.5 E	558	4.1	1120	76.9	153	79.9	18	20	*****
68.4	100	0.7	6900	37	18520	6.4	74.9 E	604	4.5	1140	77.3	158	80.3	18	24	0.18
70.3	183	1.4	4170	51	15060	8.3	74.8 E	591	4.4	1290	77.1	157	80.1	18	22	0.31
71.6	267	2.0	3080	71	11550	9.6	71.6 T	287	2.0	2860	76.5	147	79.5	18	19	0.42
72.5	338	2.5	2450	85	9720	10.5	72.5 T	358	2.7	2310	77.4	161	80.4	18	26	0.50

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-BUZZARDS BAY — SUBWATERSHED ACUSHNET RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-BB-4505	CA= 2.49 SQ MI = 1594 AC						USGS QUAD-NEW BEDFORD NORTH				LATITUDE 41-42-54		LONGITUDE 70-54-45			
SITE RATING (3)			STREAM WATER QUALITY (B)				100-YR PRIN SPWY DESIGN STORM				RUNOFF = 5.00 IN, PEAK FLOW = 476 CFS					
49.0	0	0.0		12		3.0	62.5 E	551	4.1	2010	65.0	132	68.0	22	67	*****
54.0	100	0.8	11770	29	39940	8.0	62.5 E	550	4.1	2140	64.9	132	68.0	22	67	0.18
57.3	218	1.6	5470	42	28640	11.3	61.8 E	489	3.6	2440	64.3	121	67.3	21	62	0.36
59.9	336	2.5	3780	51	24840	13.8	62.4 E	540	4.1	2350	64.8	130	67.8	22	66	0.49
62.5	528	4.0	2820	92	16190	16.5	65.0 E	828	6.1	1800	67.4	172	70.0	24	88	0.70

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

Existing Site BB-4506 (Buttonwood Park Dam)

Location: On Buttonwood Brook in Buttonwood Park, New Bedford, Massachusetts.

New Bedford North, Mass. USGS quadrangle

Latitude: 41°37'55" Longitude: 70°57'15"

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
11	8	475	0.75

Potential for Expansion: Limited. The pond is surrounded by Buttonwood Park and residential areas.

Remarks: The dam is an earthfill structure with a road across the top. The spillway is a concrete and granite block box inlet attached to a semi-circular brick lined culvert. Water level in the pond can also be controlled with a gate valve.

Ownership and Use: The pond is owned by the city of New Bedford and is used for recreation.

****

LEGEND

WATERSHED BOUNDARY

DRAINAGE AREA ABOVE STRUCTURE

POTENTIAL SITE SHOWING BENEFICIAL POOL FOR LARGEST STRUCTURE

EXISTING POND OR RESERVOIR

4505

(MATCH SHEET 2)

SOURCE - USGS QUAD. SHEETS

ASSAWOMPSET POND - 1963
NEW BEDFORD NORTH - 1964

ACUSHNET RIVER (BB-45)

BUZZARDS BAY STUDY AREA

MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

SHEET NO. 1 OF 2

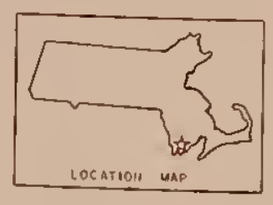
LEGEND

WATERSHED BOUNDARY

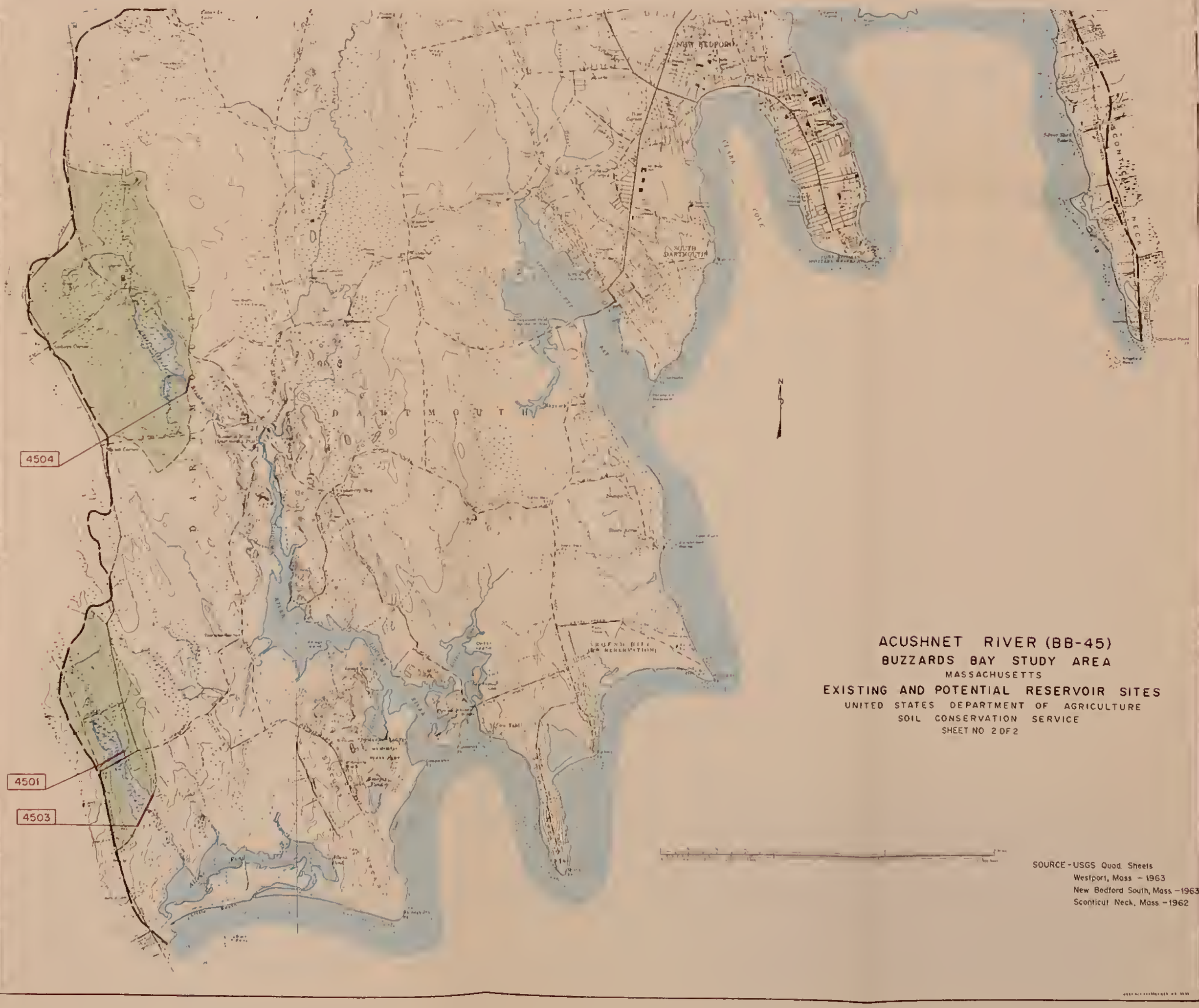
DRAINAGE AREA ABOVE STRUCTURE

POTENTIAL SITE SHOWING BENEFICIAL POOL FOR LARGEST STRUCTURE

EXISTING POND OR RESERVOIR



(MATCH SHEET 1)



ACUSHNET RIVER (BB-45)

BUZZARDS BAY STUDY AREA

MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

SHEET NO 2 OF 2

SOURCE - USGS Quad. Sheets

Westport, Mass - 1963

New Bedford South, Mass - 1963

Sconticut Neck, Mass - 1962

BUZZARDS BAY STUDY AREA
SITE DATA FOR

Subwatershed BB-46, Westport River

This subwatershed covers about 47,000 acres in Dartmouth, Fall River, Freetown, and Westport, all in Bristol County.

Major streams in the subwatershed include the East and West Branches of the Westport River and their tributaries. The West Branch originates in Rhode Island as Adamsville Brook and flows southeasterly through Westport to the Atlantic Ocean. The East Branch originates in Dartmouth as Shingle Island River which flows south into Noquochoke Lake. It emerges as the East Branch which continues flowing south through Westport to the ocean. Elevations range from a high of 384 feet on Copicut Hill in Dartmouth to sea level in Westport.

Geology of the subwatershed is characterized by granite bedrock overlain by 10 to 40 feet of glacial till.

Six potential reservoir sites and one existing reservoir were studied.

****

POTENTIAL SITE BB-4601

Location: On an unnamed tributary to Bread and Cheese Brook about 600 feet upstream from Gifford Road in Westport, Mass.

Fall River East, Mass. USGS quadrangle

Latitude: 41°38'30" Longitude: 71°04'46"

Facilities Affected:

Facility	Elevation
5 houses	140
5 sheds	140
Gifford Street	140
5 houses	135
3 Commercial buildings	135
2 garages	135
6 sheds	135
3 houses	130
Garage	130
Shed	130
Route 88	125
House	120
3 garages	120
3 sheds	120

Geologic Conditions: Both abutments are poorly graded sand and gravel and silty sand. Depth to bedrock in the foundation is estimated to be from 20 to 25 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: Preliminary designs indicate that a concrete chute emergency spillway will probably be required at this site.

****

POTENTIAL SITE BB-4602

Location: On Bread and Cheese Brook about 1400 feet upstream from American Legion Highway, Route 177, in Westport, Mass.

Fall River East, Mass. USGS quadrangle

Latitude: 41°38'12" Longitude: 71°04'00"

Facilities Affected:

Facility	Elevation
2 houses	2

Geologic Conditions: Both abutments are outwash sand and gravel with large boulders, underlain by gneiss bedrock. Depth to bedrock in the foundation is estimated to be from 15 to 20 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: Preliminary designs indicate that a concrete chute emergency spillway will probably be required at this site.

****

POTENTIAL SITE BB-4603

Location: On Bread and Cheese Brook about 350 feet upstream from Interstate Route 195 in Westport, Mass.

Fall River East, Mass. USGS quadrangle

Latitude: 41°40'12" Longitude: 71°04'51"

Facilities Affected:

Facility	Elevation
House	150
3 garages	150
3 houses	145
Garage	145
2 sheds	145
4 houses	140
3 garages	140
5 sheds	140
Old Bedford Road	140
House	135
4 garages	135
Shed	135

Geologic Conditions: Both abutments are silty sand with gravel, cobbles and boulders. Depth to bedrock in the foundation is estimated to be from 30 to 40 feet. Waterholding capabilities appear to be fair. Slight leakage is expected through both abutments and the foundation. Borrow material for dam construction was located near the site.

Engineering Notes: Preliminary designs indicate that a monolithic conduit emergency spillway will probably be required at this site.

****

POTENTIAL SITE BB-4604

Location: On Angeline Brook about 400 feet upstream from Cornell Road in Westport, Mass.

Westport, Mass.-R.I. USGS quadrangle

Latitude: 41°33'05" Longitude: 70°06'22"

Facilities Affected: None below elevation 80

Geologic Conditions: Both abutments are glacial till. Depth to bedrock in the foundation is estimated to be from 10 to 15 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: Preliminary designs indicate that a concrete chute emergency spillway will probably be required at this site.

****

POTENTIAL SITE BB-4605

Location: On Angeline Brook about 200 feet upstream from Adamsville Road in Westport, Mass.

Westport, Mass.-R.I. USGS quadrangle

Latitude: 41°34'25" Longitude: 70°05'49"

Facilities Affected:

Facility	Elevation
Garage	160

Geologic Conditions: Both abutments are glacial till. Depth to bedrock in the foundation is estimated to be from 10 to 15 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: Preliminary designs indicate that a concrete drop structure emergency spillway will probably be required at this site.

****

POTENTIAL SITE BB-4606

Location: On an unnamed tributary to Snell Creek about 300 feet upstream from Main Road in Westport, Mass.

Westport, Mass.-R.I. USGS quadrangle

Latitude: 41°35'08" Longitude: 70°05'29"

Facilities Affected:

Facility	Elevation
2 houses	135
2 garages	130
4 houses	130
Industrial building	130

Geologic Conditions: Both abutments are glacial till. Depth to bedrock in the foundation is estimated to be from 15 to 20 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: Preliminary designs indicate that a monolithic conduit emergency spillway will probably be required at this site.

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SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-BUZZARDS BAY — SUBWATERSHED WESTPORT RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV +TYPE (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-BB-4601	DA= 2.89 SQ MI = 1850 AC						USGS QUAD-FALL RIVER EAST				LATITUDE 41-38-30		LONGITUDE 71-04-46			
SITE RATING (1)	STREAM WATER QUALITY (B)						100-YR PRIN SPWY DESIGN STORM				RUNOFF = 5.00 IN, PEAK FLOW = 531 CFS					
106.1	0	0.0		10		4.1	122.8 C	640	4.1	1920	129.8	95	136.3	34	108	*****
111.8	100	0.6	10460	25	41350	9.8	111.8 E	123	0.8	8500	124.0	72	136.2	34	105	0.18
119.6	407	2.5	3330	56	2445C	17.6	119.6 E	430	2.8	3150	130.0	95	138.7	37	136	0.59
128.1	1022	6.6	1860	88	2148C	26.0	128.1 C	1045	6.8	1810	134.3	188	138.6	37	135	1.14
132.5	1558	10.1	1500	148	1582C	30.5	132.5 C	1581	10.3	1480	136.7	236	139.8	38	150	1.51
SITE-BB-4602	DA= 9.29 SQ MI = 5946 AC						USGS QUAD-FALL RIVER EAST				LATITUDE 41-38-12		LONGITUDE 71-04-00			
SITE RATING (3)	STREAM WATER QUALITY (B)						100-YR PRIN SPWY DESIGN STORM				RUNOFF = 5.00 IN, PEAK FLOW = 1315 CFS					
45.5	0	0.0		15		9.6	73.4 T	2056	4.1	1160	77.6	183	80.6	45	316	*****
50.7	100	0.2	15450	25	62700	14.7	50.7 T	174	0.4	8860	63.5	88	66.6	31	92	0.21
58.5	414	0.8	4930	56	36660	22.5	58.5 T	488	1.0	4180	71.4	143	75.3	39	194	0.75
66.4	1041	2.0	2330	108	22570	30.4	66.4 T	1115	2.3	2180	75.3	168	78.3	42	246	1.60
72.5	1835	3.6	1520	150	18550	36.5	72.5 T	1909	3.9	1460	77.4	182	80.4	44	307	2.47
SITE-BB-4603	DA= 3.47 SQ MI = 2221 AC						USGS QUAD-FALL RIVER EAST				LATITUDE 41-40-12		LONGITUDE 71-04-51			
SITE RATING (2)	STREAM WATER QUALITY (B)						100-YR PRIN SPWY DESIGN STORM				RUNOFF = 5.00 IN, PEAK FLOW = 572 CFS					
113.6	0	0.0		14		3.6	129.0 C	768	4.1	2130	135.0	150	141.8	32	293	*****
118.1	100	0.5	18800	30	6213C	8.2	118.1 N	128	0.7	14720	136.3	163	146.3	36	398	0.18
126.6	546	3.0	3930	78	2751C	16.7	126.6 E	574	3.0	3740	136.0	160	145.1	35	366	0.77
134.8	1438	7.8	1950	148	1894C	24.9	134.8 E	1466	7.8	1910	141.8	225	149.3	39	482	1.54
142.1	2776	15.0	1200	226	1475C	32.0	142.1 E	2804	15.2	1190	147.6	297	153.8	44	620	2.28

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-BUZZARDS BAY — SUBWATERSHED WESTPORT RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV ** (MSL)	TYPE	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-BB-4604 DA= 3.34 SQ MI = 2138 AC USGS QUAD-WESTPORT,MASS LATITUDE 41-33-05 LONGITUDE 70-06-22																	
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 5.00 IN, PEAK FLOW = 623 CFS																	
38.2	0	0.0		9		6.1	58.5	E	739	4.1	2040	66.3	102	75.1	43	359	*****
44.7	100	0.6	14290	23	61990	12.7	44.7	E	127	0.7	11280	58.6	69	74.9	43	356	0.18
55.0	495	2.8	3550	55	31820	23.1	55.0	E	522	2.9	3370	66.5	103	79.9	48	485	0.71
65.5	1285	7.1	1450	99	18830	33.5	65.5	C	1312	7.3	1420	72.9	141	78.5	46	443	1.40
72.5	2103	11.8	1000	138	15200	40.5	72.5	C	2130	12.0	980	76.6	169	79.8	48	481	1.91
SITE-BB-4605 DA= 1.66 SQ MI = 1062 AC USGS QUAD-WESTPORT,MASS LATITUDE 41-34-25 LONGITUDE 70-05-49																	
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 5.00 IN, PEAK FLOW = 392 CFS																	
141.8	0	0.0		11		2.8	151.3	C	367	4.1	1710	155.1	99	159.3	20	52	*****
146.2	100	1.1	5220	34	15130	7.1	146.2	D	113	1.2	4600	152.3	76	156.6	18	35	0.18
148.5	193	2.2	3220	47	13210	9.5	148.5	D	206	2.3	3010	154.2	92	158.3	19	45	0.29
150.3	285	3.2	2300	57	11420	11.3	150.3	D	299	3.4	2190	154.8	97	158.2	19	44	0.39
152.5	436	4.9	1730	77	9820	13.5	152.5	C	449	5.1	1680	156.3	110	159.3	20	51	0.53
SITE-BB-4606 DA= 0.49 SQ MI = 314 AC USGS QUAD-WESTPORT,MASS LATITUDE 41-35-08 LONGITUDE 70-05-29																	
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 5.00 IN, PEAK FLOW = 140 CFS																	
121.6	0	0.0		3		1.7	130.8	E	108	4.1	6770	134.0	32	140.7	21	71	*****
130.6	100	3.8	8440	20	41560	10.6	130.6	E	104	4.0	8120	135.2	37	141.2	21	75	0.13
131.8	128	4.9	6960	25	36040	11.8	131.8	E	132	5.0	6750	136.2	40	142.0	22	82	0.16
132.8	155	5.9	5970	28	32890	12.8	132.8	E	159	6.1	5820	137.0	43	142.6	23	88	0.18
133.7	183	7.0	5250	31	30600	13.7	133.7	E	187	7.1	5140	137.8	45	143.1	23	94	0.20

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

Existing Site BB-4609(Forge Pond)

Location: On the East Branch of the Westport River just upstream from Forge Road in Westport, Mass.

Fall River East, Mass. USGS quadrangle

Latitude: 41°37'48" Longitude: 71°03'13"

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
5	13	13,700	21.41

Potential for Expansion: The pond is surrounded by streets which would be affected by expansion. Topography limits any significant increase in surface area.

Remarks: The dam is an earthfill structure with a concrete gravity section near the right abutment. The gravity section serves as the principal spillway. Three sets of I-beams serve as flashboard channels. The flashboards can be used to drain the pond. There is also a mill inlet located near the center of the dam.

Ownership and Use: The pond is owned by Hoit Manufacturing Company and is used for cooling and fire protection.

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Existing Site BB-4609(Forge Pond)

LEGEND

- WATERSHED BOUNDARY
- DRAINAGE AREA ABOVE STRUCTURE
- POTENTIAL SITE SHOWING BENEFICIAL POOL FOR LARGEST STRUCTURE
- EXISTING POND OR RESERVOIR

4603

4601

4602

4609

(MATCH SHEET 2)

SOURCE - U.S.G.S. QUAD. SHEETS

WESTPORT - 1963

TIVERTON - 1965

FALL RIVER EAST - 1963

NEW BEDFORD NORTH - 1964

WESTPORT RIVER (BB-46)

BUZZARDS BAY STUDY AREA

MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

SHEET NO 1 OF 2

(MATCH SHEET 1)

4606

4605

4604

N

LEGEND

WATERSHED BOUNDARY

DRAINAGE AREA ABOVE STRUCTURE

POTENTIAL SITE SHOWING BENEFICIAL POOL FOR LARGEST STRUCTURE

EXISTING POND OR RESERVOIR

WESTPORT RIVER (BB-46)
BUZZARDS BAY STUDY AREA
MASSACHUSETTS
EXISTING AND POTENTIAL RESERVOIR SITES
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
SHEET NO 2 OF 2

Source - USGS Quad Sheets
Westport - 1963
Tiverton - 1949
Fall River East - 1963
New Bedford North - 1964

ISLANDS STUDY AREA
SITE DATA FOR

Subwatershed IS-69, Dukes

The Dukes Study Area covers about 52,600 acres in Chilmark, Edgartown, Gay Head, Gosnold, Oak Bluff, Tisbury, and West Tisbury; all in the islands comprising Dukes County. The islands are located in the Atlantic Ocean off the southern Coast of Massachusetts.

Geology in the subwatershed is characterized by Cretaceous clay overlain by sand and gravel.

Six potential reservoir sites and 6 existing reservoirs were studied.

****

POTENTIAL SITE IS-6901

Location: On Mill Brook about 2100 feet downstream from the Gay Head Road in Chilmark, Mass.

Squibnocket, Mass. USGS quadrangle

Latitude: 41°20'24" Longitude: 70°44'27"

Facilities Affected:

Facility	Elevation
Barn	70
2 sheds	70
House	65
Barn	65
Gravel road	65
House	60
Gay Head Road	60
House	40

Geologic Conditions: Both abutments are outwash sand and gravel with possible clay beds low on the left abutment and high on the right. Depth to Cretaceous clay in the foundation is estimated to be from 25 to 50 feet. Waterholding capabilities appear to be fair; slight leakage is expected through both abutments. Borrow material for dam construction was located near the site.

Engineering Notes: Waterholding capabilities may be improved if a cut-off is made to the Cretaceous clay. The left abutment is recommended for the excavated emergency spillway location.

****

POTENTIAL SITE IS-6902

Location: On the Tiasquam River about 300 feet upstream from Middle Road in Chilmark, Mass.

Tisbury Great Pond, Mass. USGS quadrangle

Latitude: 41°22'11" Longitude: 70°42'25"

Facilities Affected:

Facility	Elevation
House	130
Recreation Hall	130
House	120
Barn	120
Meetinghouse Road	120
Shed	115
Middle Road	110
Teaberry Lane	110

Geologic Conditions: Both abutments are morainal sand and gravel with large boulders. Depth to Cretaceous clay in the foundation is estimated to be from 80 to 100 feet. Waterholding capabilities appear to be fair to poor. Leakage is expected through both abutments. Borrow material for dam construction was located near the site.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location.

****

POTENTIAL SITE IS-6903

Location: On Paint Mill Brook about 100 feet upstream from North Road in Chilmark, Mass.

Naushon Island, Mass. USGS quadrangle

Latitude: 41°23'20" Longitude: 70°43'05"

Facilities Affected:

Facility	Elevation
House	100
Shed	100

Geologic Conditions: Both abutments are thin morainal sand and gravel, shallow to red or gray clay. Depth to Cretaceous clay in the foundation is estimated to be from 5 to 15 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE IS-6904

Location: On the Tiasquam River about 600 feet downstream from the Chilmark-West Tisbury town line in West Tisbury, Mass.

Vineyard Haven, Mass. USGS quadrangle

Latitude: 41°22'43" Longitude: 70°41'16"

Facilities Affected:

Facility	Elevation
Middle Road	80
Barn	80
2 houses	75
House	70
4 Barns	65
House	60
Barn	60
House	35

Geologic Conditions: Both abutments are morainal sand and gravel underlain by clay. Depth to Cretaceous clay in the foundation is estimated to be from 10 to 15 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

****

POTENTIAL SITE IS-6905

Location: On Mill Brook about 500 feet downstream from Fisher Pond in West Tisbury, Mass.

Vineyard Haven, Mass. USGS quadrangle

Latitude: 41°23'55" Longitude: 70°41'30"

Facilities Affected:

Facility	Elevation
North Road	90
House	70

Geologic Conditions: Both abutments are morainal sand and gravel, possibly bedded sand and gravel. The right abutment has poorly graded gravel at the surface. Depth to Cretaceous clay in the foundation is estimated to be from 5 to 10 feet. Waterholding capabilities appear to be fair; leakage is expected through both abutments. Borrow material for dam construction was located near the site.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location. Waterholding capabilities may be improved if a cut-off to the clay is made.

****

POTENTIAL SITE IS-6906

Location: On Mill Brook about 4800 feet upstream from Edgartown-West Tisbury Road in West Tisbury, Mass.

Vineyard Haven, Mass. USGS quadrangle

Latitude: 41°23'44" Longitude: 70°40'25"

Facilities Affected:

Facility	Elevation
2 houses	50
Vineyard Haven Road	50
South Road	50
North Road	50
3 houses	45
2 barns	45
House	40

Geologic Conditions: Both abutments are outwash sand and gravel. Depth to Cretaceous clay in the foundation is estimated to be from 30 to 40 feet. Waterholding capabilities appear to be fair to good; slight leakage is expected through both abutments. Borrow material for dam construction was located near the site.

Engineering Notes: Preliminary designs indicate that a concrete drop structure emergency spillway will probably be required at the site. Waterholding capabilities may be improved by an effective cut-off.

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SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-ISLANDS SUBWATERSHED- DUKES

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-IS-6901 DA= 1.35 SQ MI = 864 AC USGS QUAD-SQUIBNOCKET,MASS LATITUDE 41-20-24 LONGITUDE 70-44-27																
SITE RATING (2) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 5.00 IN, PEAK FLOW = 386 CFS																
41.7	0	0.0		4		7.6	58.5 E	299	4.1	3210	61.0	42	64.1	30	57	*****
51.2	100	1.4	9600	17	5503C	17.2	53.6 E	160	2.2	5990	56.0	28	59.1	25	36	0.17
55.0	180	2.5	6370	26	4454C	21.0	57.5 E	262	3.5	4380	60.0	37	63.0	29	52	0.26
60.0	340	4.6	4310	37	3926C	26.0	62.5 E	461	6.4	3190	65.0	61	68.1	34	80	0.42
62.5	443	6.1	3640	49	3312C	28.5	65.0 E	591	8.2	2730	67.4	72	70.0	36	95	0.50
SITE-IS-6902 DA= 1.33 SQ MI = 851 AC USGS QUAD-TISBURY GREAT POND LATITUDE 41-22-11 LONGITUDE 70-42-25																
SITE RATING (3) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 5.00 IN, PEAK FLOW = 264 CFS																
108.1	0	0.0		3		6.1	122.3 E	294	4.1	2680	124.8	54	127.8	26	53	*****
116.6	100	1.4	9120	23	3986C	14.6	119.1 E	177	2.5	5160	121.5	39	124.5	22	39	0.17
118.6	152	2.0	6250	28	3343C	16.6	121.1 E	244	3.4	3890	123.6	49	126.6	25	48	0.23
120.3	204	2.9	4930	34	2983C	18.2	122.8 E	314	4.4	3200	125.1	56	128.2	26	55	0.29
122.5	289	4.1	3750	44	2479C	20.5	125.0 E	422	6.0	2560	127.3	66	130.0	28	64	0.37
SITE-IS-6903 DA= 0.91 SQ MI = 582 AC USGS QUAD-NAUSHON,MASS LATITUDE 41-23-20 LONGITUDE 70-43-05																
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 5.00 IN, PEAK FLOW = 260 CFS																
90.3	0	0.0	0	3	9841C	6.3	92.8 E	29	0.6	10510	95.1	23	98.1	14	6	*****
92.0	10	0.2	35480	10	3646C	8.0	94.5 E	55	1.1	6430	96.9	30	99.9	16	10	0.02
92.5	17	0.4	21580	12	3127C	8.5	95.0 E	67	1.4	5550	97.4	32	100.0	16	11	0.04

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-ISLANDS SUBWATERSHED- DUKES

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV + TYPE (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-IS-6904 DA= 2.54 SQ MI = 1626 AC USGS QUAD-VINEYARD HAVEN,MASS LATITUDE 41-22-43 LONGITUDE 70-41-16																
SITE RATING (2) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 5.00 IN, PEAK FLOW = 478 CFS																
31.5	0	0.0		7		5.5	51.9 E	562	4.1	2000	54.1	62	57.1	31	72	*****
39.8	100	0.7	9040	18	5006C	13.7	42.3 E	185	1.4	4880	44.7	33	47.7	22	31	0.18
53.8	648	4.8	2450	61	2624C	27.7	56.3 E	831	6.1	1910	58.6	76	61.6	36	99	0.80
67.1	1743	12.8	1310	106	2141C	41.0	69.6 E	2039	15.1	1120	71.9	127	74.9	49	216	1.51
79.3	3387	25.0	910	165	1861C	53.3	81.8 E	3847	28.4	800	84.1	190	88.1	62	402	2.07
SITE-IS-6905 DA= 1.38 SQ MI = 883 AC USGS QUAD-VINEYARD HAVEN,MASS LATITUDE 41-23-55 LONGITUDE 70-41-30																
SITE RATING (2) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 5.00 IN, PEAK FLOW = 395 CFS																
62.1	0	0.0		7		4.1	74.1 E	305	4.1	3130	76.5	59	79.9	22	39	*****
68.6	100	1.4	10270	25	4182C	10.6	73.1 E	260	3.5	3950	75.5	55	78.5	21	33	0.17
72.0	206	2.8	5700	38	3093C	14.0	74.5 E	326	4.4	3600	76.9	62	79.9	22	39	0.29
76.4	418	5.6	3380	59	2398C	18.4	78.9 E	592	8.0	2390	81.3	86	84.3	26	59	0.49
79.6	630	8.6	2540	74	2157C	21.6	82.1 E	847	11.5	1890	84.4	109	87.4	29	78	0.65
80.9	736	10.0	2310	83	2046C	22.9	83.4 E	978	13.2	1740	85.9	120	89.1	31	91	0.72
SITE-IS-6906 DA= 5.83 SQ MI = 3731 AC USGS QUAD-VINEYARD HAVEN LATITUDE 41-23-44 LONGITUDE 70-40-25																
SITE RATING (2) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 5.00 IN, PEAK FLOW = 1571 CFS																
39.9	100	0.3	17140	26	65110	11.8	39.9 T	147	0.5	11690	46.7	59	49.9	22	44	0.20
41.0	133	0.4	13930	31	59300	13.0	41.0 T	180	0.6	10320	47.0	61	50.0	22	46	0.26
42.5	187	0.6	10270	39	49410	14.5	42.5 T	233	0.8	8220	47.4	63	50.4	22	50	0.35

NOTES - (1) COSTS ARE BASED ON 1973 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

Existing Site IS-6907(Bliss Pond)

Location: On Mill Brook about 700 feet upstream from Menemsha Crossroad on Marthas Vineyard in Chilmark, Mass.

Squibnecket, Mass. USGS quadrangle

Latitude: 41°21'10" Longitude: 70°45'07"

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
3	10	250	0.39

Potential for Expansion: Raising the present pond level by 20 feet would create a 20 acre pool. Sandy soils may limit expansion potential.

Remarks: The dam is an earthfill. The spillway is a stone masonry drop structure with flashboards at each end. The outlet channel is lined with stone. Some portions of the dam have erosion problems.

Ownership and Use: The pond is owned by the Bliss Farm and is used for stock water and wildlife habitat.

****

Existing Site IS-6908(Fisher Pond)

Location: On Mill Brook about 2800 feet downstream from the Chilmark-West Tisbury town line in West Tisbury, Mass.

Vineyard Haven, Mass. USGS quadrangle

Latitude: 41°23'50" Longitude: 70°41'35"

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
9	8	850	1.33

Potential for Expansion: Raising the pond level by 15 feet would create a 60 acre pool. Sandy soils may limit expansion potential.

Remarks: The dam is an earthfill structure. The downstream face is riprapped. The upstream slope is partially riprapped. The spillway is a stone masonry drop structure with a concrete slab set at water level. The spillway has provision for flashboards at the downstream end. Trees and brush are growing on the right portion of the dam.

Ownership and Use: The pond is owned by Edwin Woods and is used for wildlife habitat.

****

Existing Site IS-6909(Crocker Pond)

Location: On Mill Brook about 1100 feet upstream from South Road in West Tisbury, Mass.

Vineyard Haven, Mass. USGS quadrangle

Latitude: 41°24'11" Longitude: 70°40'55"

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
6	11	1,450	2.27

Potential for Expansion: Raising the pond level by 10 feet would create a 40 acre pool. North Road and several houses would be affected. Sandy soils may limit expansion potential.

Remarks: The dam is an earthfill structure with stone masonry on the upstream and downstream face. The spillway system consists of two concrete structures. One has small stone masonry steps and a broad-crested weir which functions as an emergency spillway. The other spillway has provision for flashboards.

Ownership and Use: The pond is owned by Seven Gates Farm Corporation and is used for wildlife habitat.

****

Existing Site IS-6910(Priester Pond)

Location: On Mill Brook about 200 feet upstream from South Road in West Tisbury, Mass.

Vineyard Haven, Mass. USGS quadrangle

Latitude: 41°24'08' Longitude: 70°40'44"

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
4	7	2,025	3.16

Potential for Expansion: Limited by Crocker Pond which is located immediately upstream. Sandy soils may limit expansion potential.

Remarks: The dam is an earthfill structure with stone masonry on the upstream face. The spillway is a concrete weir with a notch which serves as the principal spillway. There are two other gated outlets which are no longer in use. Trees are growing on the dam. Water is flowing through the concrete in one area of the spillway.

Existing Site IS-6910(Priester Pond)(Cont.)

Ownership and Use: The pond is owned by Mrs. Brooke Anderson and is used for wildlife habitat.

****

Existing Site IS-6911(Davis Pond)

Location: On Tiasquam River about 2400 feet upstream from South Road in West Tisbury, Mass.

Vineyard Haven, Mass. USGS quadrangle

Latitude: 41°22'52" Longitude: 70°41'03"

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
3	8	1,700	2.66

Potential for Expansion: Raising the pond level by 20 feet would create a 35 acre pool. Sandy soils may limit expansion potential.

Remarks: The dam is an earthfill structure with riprap on the upstream face. The spillway is a stone drop structure with a concrete section with provision for flashboards. Brush is growing on the dam and there are many roots in the dam fill. Seepage was apparent along the downstream toe of the dam.

Ownership and Use: Ownership of the pond was not determined. The pond is used for wildlife habitat.

****

Existing Site IS-6912(Looks Pond)

Location: On Tiasquam River about 500 feet upstream from South Road in West Tisbury, Mass.

Vineyard Haven, Mass. USGS quadrangle

Latitude: 41°22'40" Longitude: 70°40'46"

Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Sq. Mi.
4	8	1,850	2.89

Potential for Expansion: Raising the present pond level by 5 feet would create a 15 acre pool. Sandy soils may limit expansion potential.

Remarks: The dam is an earthfill structure. The main spillway is a concrete drop structure with riprap at the inlet. There is also another concrete drop structure with flashboards.

Ownership and Use: Ownership of the pond was not determined. The pond is used for wildlife habitat.

****

ISLANDS STUDY AREA
SITE DATA FOR

Subwatershed IS-70, Nantucket

The Nantucket Study Area covers about 31,500 acres on the island of Nantucket in the Atlantic Ocean south of Cape Cod.

No potential or existing reservoir sites which met inventory criteria were located.

****

IS - 6907
Bliss Pond

IS - 6910
Priester Pond

IS - 6908
Fisher Pond

IS - 6912
Davis Pond

IS - 6909
Crocker Pond

EXISTING RESERVOIRS
SUBWATERSHED IS-69
[illegible]

LEGEND

WATERSHED BOUNDARY

DRAINAGE AREA ABOVE STRUCTURE

POTENTIAL SITE SHOWING BENEFICIAL POOL FOR LARGEST STRUCTURE

EXISTING POND OR RESERVOIR

6901 6902 6903 6904 6905 6906 6907 6908 6909 6910 6911 6912

MATCH SHEET 2

(SHEET 1 OF 2)

MARTHA'S VINEYARD (IS-69)
ISLANDS STUDY AREA
MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Source — U.S.G.S. Quad Sheets
Naushon Island, Mass. — 1972
Squibnocket, Mass. — 1972
Tisbury Great Pond, Mass. — 1972
Vineyard Haven, Mass. — 1972

1,R-10,197.3

NOTE:

There were no existing or potential reservoir sites that met study criteria located in this portion of Martha's Vineyard.

MATCH SHEET 1 OF 2

(SHEET 2 OF 2)

MARTHA'S VINEYARD (IS-69)
ISLANDS STUDY AREA

MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

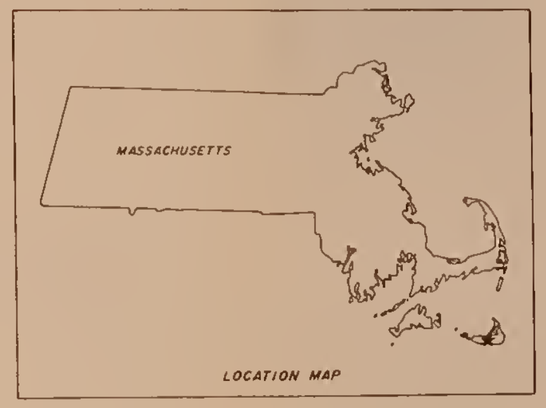
Source - U.S.G.S. Quad Sheets
Edgartown, Mass. - 1972
Tisbury Great Pond, Mass. - 1972
Vineyard Haven, Mass. - 1972

1 1/2 0 1 MILE

I.R-10,206

NOTE:

There were no existing or potential reservoir sites which met inventory criteria located within this subwatershed.



LOCATION MAP

NANTUCKET (IS-70)
ISLANDS STUDY AREA

MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Source – U.S.G.S. Quad Sheets
Great Point, Mass. – 1972
Nantucket, Mass. – 1972
Siasconset, Mass. – 1972
Tuckernuck Island, Mass. – 1972

MUNICIPAL INDEX OF RESERVOIR SITE DATA

City or Town	Site No.	Narrative Information Page	Design Summary Page
Acushnet	BB-4401	135,139	138
Barnstable	CC-3901	103	106
	CC-3903	104	106
	CC-3905	105	
	CC-3906	107	
Bourne	SS-3102	88	
	SS-3103	88	
	CC-4001	109	
	CC-4002	110	
Braintree	SS-2303	9	
	SS-2409	11	
	SS-2410	12	
	SS-2411	13	
	SS-2501	15	16
Brewster	CC-3301	93	
Carver	BB-4101	113	115
	BB-4116	122	
	BB-4120	124	
	BB-4124	126	
	BB-4201	127	128
	BB-4212	129	
	BB-4215	129	
	BB-4217	129	
	BB-4221	129	
	BB-4222	129	
	BB-4238	130	
	BB-4339	134	
	BB-4340	134	
	BB-4350	134	
Chilmark	IS-6901	159	163
	IS-6902	160	163
	IS-6903	160	163
	IS-6907	165	
Cohasset	SS-2606	20	23
	SS-2607	20	24
	SS-2621	30	

City or Town	Site No.	Narrative Information Page	Design Summary Page
Dartmouth	BB-4503	146	147
	BB-4504	146	147
Duxbury	SS-2805	56	59
	SS-2812	63	
	SS-2814	64	
	SS-2901	65	68
	SS-2908	70	
	SS-2916	74	
Falmouth	CC-4003	110	
	CC-4004	111	
Hanover	SS-2713	34	38
	SS-2721	43	
	SS-2722	44	
	SS-2724	45	
	SS-2725	45	
	SS-2740	52	
Hanson	SS-2719	42	
	SS-2720	43	
	SS-2721	43	
Hingham	SS-2601	17	22
	SS-2602	18	22
	SS-2603	18	22
	SS-2604	19,25	23
	SS-2605	19	23
	SS-2609	21	24
	SS-2610	25	
	SS-2612	26	
	SS-2613	26	
	SS-2614	27	
	SS-2619	29	
Holbrook	SS-2412	13	
Kingston	SS-2903	66	68
	SS-2904	66	68
	SS-2905	67	69
	SS-2906	67	69
	SS-2910	71	
	SS-2912	72	
	SS-2915	73	

City or Town	Site No.	Narrative Information Page	Design Summary Page
Marshfield	SS-2712	34	38
	SS-2717	36,42	40
	SS-2733	49	
	SS-2734	49	
	SS-2801	53	58
	SS-2802	54	58
	SS-2803	54	58
	SS-2804	55	59
	SS-2806	56,61	59
	SS-2807	57	60
	SS-2808	61	
	SS-2810	62	
	SS-2811	62	
	SS-2813	63	
Mashpee	CC-3901	103	106
	CC-3902	104	106
	CC-3904	105	
Mattapoisett	BB-4401	135	138
	BB-4402	136,139	138
Middleborough	BB-4201	127	128
	BB-4235	130	
	BB-4237	130	
New Bedford	BB-4505	148	
Norwell	SS-2620	30	
	SS-2701	31,41	37
	SS-2703	32	37
	SS-2705	32	37
	SS-2706	33	38
	SS-2726	46	
	SS-2727	46	
	SS-2732	48	
Pembroke	SS-2714	35	39
	SS-2715	35	39
	SS-2716	36,41	39
	SS-2720	43	
	SS-2736	50	
	SS-2737	51	
	SS-2739	51	
	SS-2740	52	
	SS-2908	70	
	SS-2909	70	

City or Town	Site No.	Narrative Information Page	Design Summary Page
Plymouth	SS-2913	72	
	SS-2914	73	
	SS-3001	75,82	79
	SS-3002	76,82	79
	SS-3003	76	79
	SS-3004	77	80
	SS-3006	77	80
	SS-3007	78	80
	SS-3008	78	81
	SS-3009	83	
	SS-3011	83	
	SS-3012	84	
	SS-3013	84	
	SS-3014	85	
	SS-3015	85	
	SS-3016	86	
	SS-3101	87	
	SS-3102	88	
	BB-4103	114,116	115
	BB-4104	114	115
	BB-4105	116	
	BB-4106	117	
	BB-4107	117	
	BB-4113	121	
	BB-4120	124	
Plympton	SS-2911	71	
Randolph	SS-2409	11	
Rochester	BB-4403	136,139	138
	BB-4404	140	
	BB-4405	140	
	BB-4406	141	
	BB-4407	141	
	BB-4408	142	
	BB-4409	143	
	BB-4410	143	
	BB-4411	144	
Rockland	SS-2723	44	
Sandwich	CC-3201	89	
	CC-3202	90	
	CC-3203	90	
	CC-3204	91	

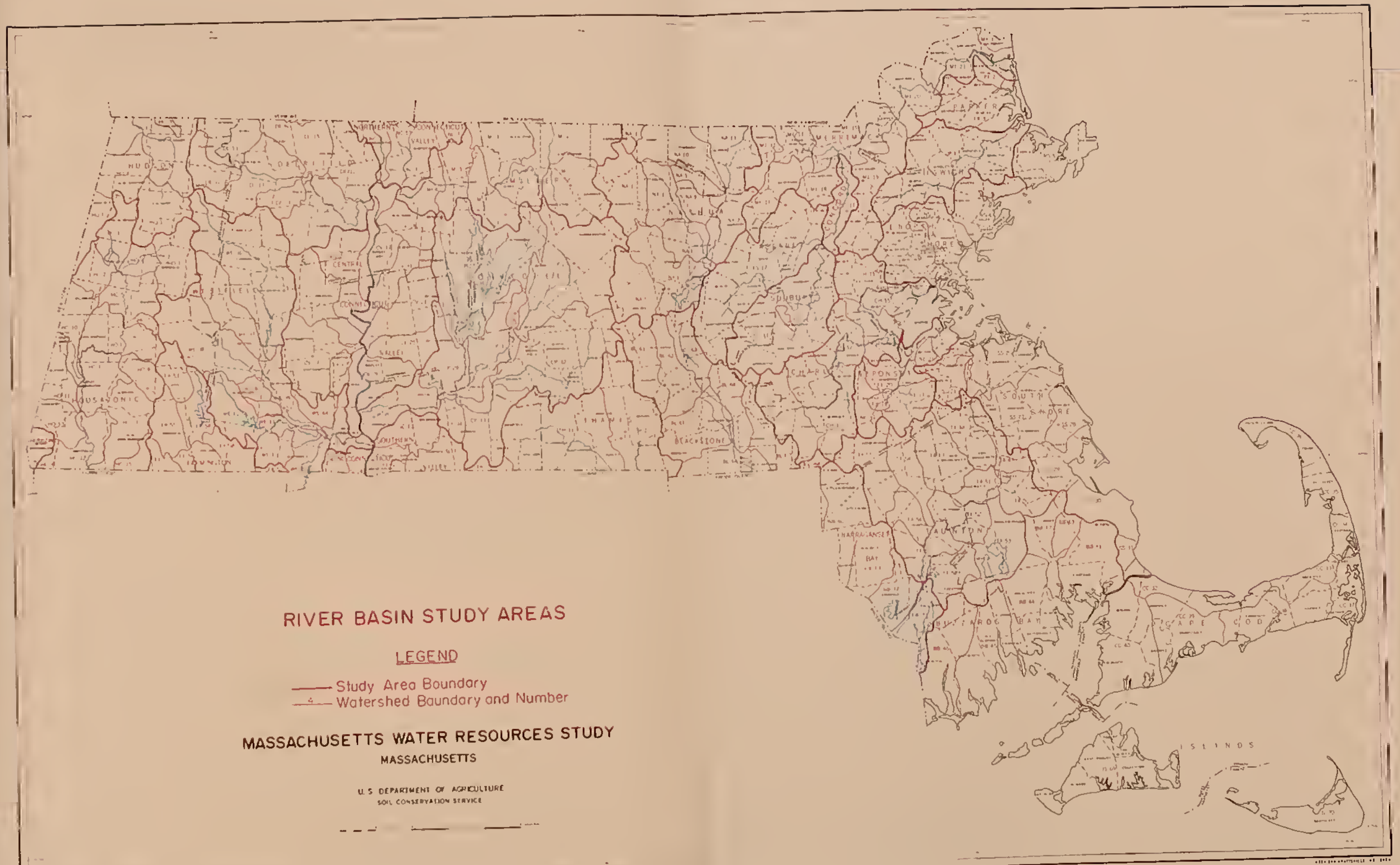
City or Town	Site No.	Narrative Information Page	Design Summary Page
Scituate	SS-2703	32	37
	SS-2728	47	
	SS-2729	47	
	SS-2730	48	
Wareham	BB-4104	114	115
	BB-4105	116	
	BB-4108	118	
	BB-4109	118	
	BB-4110	119	
	BB-4111	120	
	BB-4112	120	
	BB-4114	121	
	BB-4115	122	
	BB-4117	123	
	BB-4118	124	
	BB-4121	125	
	BB-4122	125	
	BB-4123	126	
	BB-4202	131	
	BB-4203	131	
	BB-4204	132	
Wellfleet	CC-3501	95	96
Westport	BB-4501	145	147
	BB-4601	151	155
	BB-4602	152	155
	BB-4603	152	155
	BB-4604	153	156
	BB-4605	153	156
	BB-4606	154	156
	BB-4609	157	
West Tisbury	IS-6904	161	164
	IS-6905	161	164
	IS-6906	162	164
	IS-6908	165	
	IS-6909	166	
	IS-6910	166	
	IS-6911	167	
	IS-6912	168	
Weymouth	SS-2615	27	
	SS-2616	28	
	SS-2617	28	
	SS-2618	29	
Yarmouth	CC-3801	99	100
	CC-3802	101	

APPENDIX

This report is one of a series dealing with reservoir sites. Previous reports in the series are:

1. Study of Possible Water Storage Areas, Ipswich River Watershed, January 14, 1965.
2. Study of Possible Water Storage Sites, Upper Hoosic River and Upper Housatonic River, February 1966.
3. A Study of Potential Reservoir Sites in Massachusetts, Hudson River Basin, January 1968.
4. A Study of Potential Reservoir Sites, Housatonic Study Area, Massachusetts, June 1969.
5. Inventory of Potential and Existing Reservoir Sites, Merrimack Study Area, Massachusetts, March 1970.
6. Inventory of Potential Reservoir Sites, Neponset Study Area, Massachusetts, October 1970.
7. Inventory of Potential and Existing Upstream Reservoir Sites, Thames Study Area, Massachusetts, January 1971.
8. Inventory of Potential and Existing Upstream Reservoir Sites, Parker and North Shore Study Area, Massachusetts, June 1971.
9. Inventory of Potential and Existing Upstream Reservoir Sites, Nashua Study Area, Massachusetts, March 1972.
10. Inventory of Potential and Existing Upstream Reservoir Sites, Deerfield Study Area, Massachusetts, November 1972.
11. Inventory of Potential and Existing Upstream Reservoir Sites, Chicopee Study Area, Massachusetts, May 1973.
12. Inventory of Potential and Existing Upstream Reservoir Sites, Taunton and Narragansett Bay Study Areas, Massachusetts, January 1974.
13. Inventory of Potential and Existing Upstream Reservoir Sites, Ipswich Study Area, May 1974.
14. Inventory of Potential and Existing Upstream Reservoir Sites, Millers Study Area, July 1974.
15. Inventory of Potential and Existing Upstream Reservoir Sites, Connecticut Valley Study Areas, January 1975.

Reports will be prepared in future years for the remainder of the state. Basic data from which this report was prepared are on file in the Soil Conservation Service Office, 29 Cottage Street, Amherst, Massachusetts 01002.



RIVER BASIN STUDY AREAS

LEGEND

——— Study Area Boundary

—④— Watershed Baundary and Number

MASSACHUSETTS WATER RESOURCES STUDY

MASSACHUSETTS

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE